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ABSTRACT

Designed to provide a general purpose guide for practitioners to use in developing, implementing, and evaluating (validating) placement and exemption programs, this book suggests methods of organizing and implementing such programs, provides examples of actual working programs, and shows how the example programs fit within the framework of particular placement and exemption models that are presented in the book, "College Placement and Exemption." Eight steps for implementing placement and exemption activities, including three checklists of specific activities, are presented. Detailed substantive examples of the vertical sectioning model, the advanced standing model, and the remediation model are provided. All the examples and frames of reference used in discussing the placement and exemption models were taken from the programs and activities at the University of Illinois at Urbana-Champaign (UIUC). To provide a small-college perspective, an example of placement for remediation was taken from the activities of Wesley College. Suggestions for assessing and planning for placement and exemption activities are offered, and a foreign language placement model and information about a calculus exemption examination are included. Also appended are: an example of the distribution of placement and proficiency test lists for Fall 1967 freshmen; example of the interpretation information for the 1974 Freshman Guidance Form; proposal on LAS College Policy concerning the CLEP examinations and the General Education Exemption Program, policy and procedure recommendations regarding placement and proficiency examinations at UIUC, and a glossary of basic terms of measurement and statistics. (SW)

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Methods of Implementing College Placement and Exemption Programs

by Lawrence M. Aleamoni
with contribution by Joseph W. Dougherty

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Methods of Implementing College Placement and Exemption Programs

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Lawrence M. Aleamoni

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1. *Introduction*

Because freshmen entering any institution of higher education have a wide diversity of ability and achievement in numerous subject-matter areas, the faculty is faced with the problem of trying to provide quality teaching in large introductory courses made up of heterogeneous students. One way of solving this problem is to set up more homogeneous groups by assigning students to courses (and sections of courses) consonant with their ability and achievement. Such assignment can be best accomplished by using placement and exemption examinations.

Suppose that in addition to trying to "fit" students into appropriate courses, the institution was also interested in introducing flexibility into its educational program by (a) permitting students to graduate in less time than traditionally required, (b) allowing students to obtain credit for knowledge acquired outside the classroom, (c) providing alternate tracks for students to satisfy course and program requirements, and (d) through the "released time" gained via credit by examination, affording students the opportunity to pursue major areas in greater depth, to explore new academic subjects, and perhaps to earn a double degree. This kind of flexibility calls for institutions of higher education to establish placement and exemption programs.

Prior to the publication of Willingham's (1974) book, *College Placement and Exemption*, there was very little formal material to use in developing such programs. Willingham's purpose in writing *College Placement and Exemption* (CPE) was threefold: (1) to develop a framework that would include the most important types of placement and exemption and closely related models and to help clarify the relationships among them, (2) to describe the educational rationale and technical characteristics of these models, and (3) to review fairly thoroughly the relevant research literature. His chief aim was to encourage, on individual campuses, more systematic analysis of the objectives and outcomes of these various models of sorting students into alternate educational treatments.

Willingham described six general ways in which postsecondary education accommodates individual differences, but only one of these—alternate treatments—was the subject of CPE. Alternate treatments were classified into four general areas: assignment, placement, selection, and exemption. Using these four areas of alternate treatments as a framework, Willingham developed 12 models that can be differentially placed into each of the four levels. Table 2 from CPE illustrating the 12 models is presented in Figure 1.1. These four alternate treatment areas make up the substantive chapters in CPE.

Willingham succeeded in his major objective—to present an analytic and research oriented review of what has been done in the area of placement and exemption. However, since CPE is the first book of its type, a supplement is needed to present the practical aspects of developing and implementing college placement and exemption programs. That is what this book is designed to do. To provide maximum continuity between this book and CPE, the introductions to the placement and exemption chapters in CPE are quoted below.

Placement within a Sequence[1]

"Placement is concerned with a class of alternate treatments that has these characteristics: students are placed in alternate treatments on the basis of competency in specific subject matter; treatments vary according to how elementary or advanced the subject matter is or at what pace the student is expected to master material; achievement at the end of the instructional sequence serves as a common criterion to evaluate the performance of students who were initially placed at different points in the sequence or moved at a different pace.

"Generally speaking, placement is intended to get students started at the right level in a subject according to their preparation and moving at their own speed. There are many applications that differ from one subject to another; e.g., deciding which French course is best for students who have had varying amounts of high school French, determining whether a student is ready to go into calculus, offering some well prepared chemistry majors a speeded first course in chemistry, advising some students to take remedial work in English composition, etc. . . .

1. Willingham, CPE, Chapter 4, pp. 55-56.

Figure 1.1. Table 2 from CPE illustrating 12 alternate treatment models

	Model	Alternate treatments		Purpose of treatment variations
Assignment	**1** Method variation	A A	Regular course Alternate instructional method	To match learning conditions with student characteristics
Assignment	**2** Matching students and teachers	A A	Professor X Professor Y	To match teaching style with learning style
Placement	**3** Vertical sectioning	A_1 A_2 A_2	Regular sequence First course exempted	To start the student at an appropriate point in a sequence of courses
Placement	**4** Remediation	A R A	Regular course Regular course preceded by remediation	To teach the student specific content or skills required in higher courses
Placement	**5** Group pacing	A A	Regular course Course length determined by rate of achievement	To match the rate of instruction with the student's rate of acquisition
Selection	**6** Selective sectioning	? X	Whatever the student takes instead of Course X A course available only to qualified students	To offer an advanced or enriched course to those students able to profit from it

	Model			
Selection	**7** Honors programming	A B C X Y Z	Regular courses Honors courses	To offer a challenging integrated program to specially talented students
Selection	**8** Compensatory programming	A B C R S A	Regular courses Remediation, basic skills and some regular coursework	To offer an integrated program for poorly prepared students
Exemption	**9** Horizontal sectioning	A X	Regular course Special course required of those exempted from regular course	To enrich the program of students who demonstrate competency in a required course
Exemption	**10** Course exemption	A ○	Regular course No requirement or unspecified requirement	To recognize (through credit or waiver) knowledge acquired in a specific subject
Exemption	**11** Advanced standing	A B C ▭	General education requirements Requirements credited	To recognize (through credit or waiver) a given level of educational attainment
Exemption	**12** Recognizing competence	A B ○ ○	Required competencies Competencies credited	To check off competencies previously acquired

"A common sense strategy would be to decide what the student ought to know, determine what he already knows, and teach him what he needs to know as reasonably fast as he can learn it. . . . [However,] this common sense strategy is not so simple as it sounds.

"To decide what the student ought to know, it is necessary to understand the structure of the subject matter and the objectives of instruction. To determine what the student already knows, it is necessary to construct useful placement tests that reflect the structure of the subject. To teach the student what he does not already know, it is necessary to relate the test results directly to the instructional sequence and to alternate placement possibilities." Basically, Willingham is suggesting that it may be useful to think of placement as a special form of individualized instruction where the two may merge at certain points.

Exemption from Requirements Already Mastered[2]

"Exemption closely resembles placement in the sense that it involves sorting students into alternate treatments on the basis of subject matter competency; an important difference lies in the nature of the treatments. Since placement involves a choice between a long and a short sequence, student achievement in the latter part of the sequence serves as a common criterion for evaluating placement decisions. But in exemption there is no common criterion; the alternatives represent whether or not a student is obliged to fulfill a requirement, be it a single unconnected course or an entire sequence. This lack of a common criterion means that exemption must be evaluated on the basis of long range considerations rather than short range achievement gains."

In placement the main concern is to see that students take up topics that are appropriate to their level of understanding in the particular subject.

"Exemption, on the other hand, is more a problem of determining the conditions under which prior learning in other contexts will be recognized. Placement is an *instructional strategy*, but exemption is an *institutional strategy*. . . . Exemption is a primary means of maintaining articulation between higher education programs and other learning."

2. Willingham, CPE, Chapter 6, pp. 132-33.

Purpose of This Book and Its Intended Users

The aim of this book is to provide a general purpose guide for practitioners to use in developing, implementing, and evaluating (validating) placement and exemption programs by (a) suggesting methods of organizing such programs, (b) suggesting methods of implementing such programs, (c) providing examples of actual working programs, and (d) showing how the example programs fit within the framework of particular placement and exemption models that are presented in CPE.

Most of the practical material and procedures for implementing the various placement and exemption models are usually presented in institutional reports, newsletters, journal articles, professional papers, etc. Because there are so many different sources to go to and because institutional publications are not easily accessible, this book contains examples of this typical material so that potential practitioners can benefit from the experiences of other programs.

The intended users of this book are college and school administrators and faculty who are interested in developing placement and exemption procedures and who have no special knowledge of testing or statistics. College personnel in institutional research and testing should also find this book useful. For more extended discussions of the terminology and topics referred to in this book, readers should access Willingham's book. For more extended discussions of test construction techniques, the following titles[3] are recommended:

Ebel, R. L., *Essentials of Educational Measurements*, 2nd ed.

Educational Testing Service, *Making the Classroom Test: A Guide for Teachers*, 3rd ed.

Gronlund, N. E., *Constructing Achievement Tests*

Thorndike, R. L., ed., *Educational Measurement*

Travers, R. M. W., *How to Make Achievement Tests*

Finally, for more extended discussions of correlational statistics, reliability and validity techniques, the reader should access:

Cronbach, L. J., *Essentials of Psychological Testing*, 3rd ed.

3. Complete bibliographical information is given in the References, at the end of this book.

Ebel, R. L., *Essentials of Educational Measurement*, 2nd ed.

Guilford, J. P., and Fruchter, B., *Fundamental Statistics in Psychology and Education*, 6th ed.

Scope of the Book

Chapter 2 presents eight steps to follow in implementing placement and exemption activities, including three checklists of specific activities. Chapters 3, 4, and 5 present detailed substantive examples of the vertical sectioning model, the advanced standing model, and the remediation model. All three chapters illustrate the use of the eight steps presented in Chapter 2.

All the examples and frames of reference used in discussing the placement and exemption models in Chapters 3 and 4 were taken from the programs and activities at the University of Illinois at Urbana-Champaign (UIUC). There are several reasons for this: first, the placement and exemption programs and activities are quite comprehensive and representative of those at other institutions both large and small. Second, both locally developed and commercially developed examinations are used in the programs. Third, because the author was instrumental in the development of those programs at the UIUC, it was possible to provide much more detailed examples of the placement and exemption models than would have been possible otherwise.

To provide a small-college perspective, the example of placement for remediation discussed in Chapter 5 was taken from the activities of Wesley College.

Finally, Chapter 6 offers a few brief thoughts and suggestions on how to assess and plan for placement and exemption activities.

2. *Developing, Implementing, and Evaluating Placement and Exemption Programs*

This chapter presents eight steps to follow in order to develop, implement and experimentally evaluate placement and exemption programs at a college.

STEP 1: Define the Purposes of Placement and Exemption

In developing placement and exemption activities on a campus, one of the first concerns should be a clearcut definition of your goals.

Sorting Students into Sections

A major consideration at any college is how to deal with the wide diversity of the students enrolled in the introductory and required courses. There is usually such a wide range of ability, interest, and previous preparation that many instructors are forced to direct their instruction at the students in the middle, thereby boring the more able students and frustrating the less able. If it is possible to devise or find a measure that allows the instructor to better define and group these diverse students, then more homogeneous sections of the course can be created, providing a less frustrating climate for the student to learn in and for the instructor to teach in.

Helping Freshmen Select Appropriate Course Levels

Students beginning their college careers have had varying levels of course experiences in secondary school. Some may have taken college preparatory courses and read a great deal on their own, while others may have performed well in courses which would be judged inferior to similar remedial courses at the college level. If the institution is interested in helping freshmen students begin their learning at the appropriate place and level, then developing tests that could be used to guide them is an important first step. Such examinations not only help students and advisors to select appropriate courses and course levels but also result in more student satisfaction and less frustration in the initial college

course experiences. Course work becomes more relevant to student needs, and students are no longer required to take prerequisite courses regardless of their previous preparation and experiences.

Helping Advanced Students Move Ahead

If the institution is interested in promoting a time-shortened degree program or allowing students to move into more advanced courses based upon their present capabilities, then a placement and exemption program is very likely in order. Such a program might also be interpreted both as a move to individualize instruction by allowing students easier access to more appropriate courses early in their college careers and as a move to encourage the development of excellence at an earlier period in the college career.

What courses or course sequences are to be included in your placement and exemption program? Are they to be the large introductory courses for beginning students or are they to be advanced courses for continuing and transfer students? The final decision about which courses are to be included in a placement and exemption program will depend upon the institution's needs, the appropriateness of the courses, and the cooperation of the responsible faculty and departmental staff.

A Word of Caution

The results of placement and exemption examinations are often misused to guarantee a certain number of course sections and teaching assistant positions. Using an examination which was developed to determine different levels of competency within a particular course sequence merely to ensure equal numbers of students in each course of the sequence invalidates the purpose of the examination.

STEP 2: Determine the Major Instructional Objectives of the Course or Course Sequence

Once you have decided which course or course sequence is to be included in this placement and exemption program, those responsible for the course or course sequence need to determine what the major instructional objectives are in terms of the department, college, and university expectations. For example, is the course or course sequence designed as the foundation for student competencies in other courses or course sequences in the department and college, or is it designed to ensure a competency level in and of itself? What are the amount and type of material to be covered and what are instructors' expectations with regard to students' capabilities in using what was learned? What skills is the course material designed to develop at either the cognitive or affective level?

There are several good resources to use in trying to define the major instructional objectives of a course or course sequence: Bloom, *Taxonomy of Educational Objectives* (1956), Krathwohl, Bloom, and Masia, *Taxonomy of Educational Objectives* (1964), Mager, *Preparing Instructional Objectives* (1962), and Gronlund, *Stating Behavioral Objectives for Classroom Instruction* (1970).

STEP 3: Secure or Develop an Adequate Test

With instructional objectives defined, the next step is to determine what types of tests are needed to determine success, failure, levels of achievement, etc. The measures needed may be in the form of objective examinations, essay examinations, oral examinations, performance examinations, portfolio evaluations, etc. For examples of different kinds of examinations, see Aleamoni (1968).

The type of measures needed depends upon the main purpose of the measurement. For example, to place students within a sequence of courses, a test which fits each course in the sequence is needed. To grant credit for general educational requirements, a test representing commonly accepted courses in many colleges across the country is needed. If, in addition, the measures for placement and credit are needed for advising purposes prior to course enrollment, then the test scores should be available early enough for advisors and students to use. The need for more than one form of an examination and arranging security may also be important considerations.

Once you have determined what type of measure is needed, you must ascertain if such a measure is available from a test publisher. Below is a checklist of activities to help you select appropriate instruments for consideration.

Checklist for Identifying and Selecting Published Instruments

1. Identify potential instruments:
   - ___a. Using Buros' *Mental Measurements Yearbooks* (MMY) and *Tests in Print*, learn what tests are available and read critical reviews of them by experts.
   - ___b. Gather and inspect catalogs and announcements for references to tests, services, and technical data from test publishers such as The College Board; Harcourt Brace Jovanovich Inc.; Science Research Associates; etc.
   - ___c. Read the professional publications of the National Council on Measurement in Education—*Measurement News* and the *Journal of Educational Measurement*—for announcements of new tests and lists of test reviews as well as general articles on testing issues.
   - ___d. If test security is important, determine which publishers provide appropriate security.
   - ___e. If more than one form of an examination is needed, determine which publishers provide such a service.
   - ___f. If you need to try out the test on a sample or course before determining its appropriateness, investigate the test publisher's policies concerning trial administrations.
2. Select instruments for closer scrutiny:
   - ___a. Send for specimen sets (sample copies) of the tests selected in order to analyze the questions and the material covered in depth.
   - ___b. Have the individuals responsible for the course or course sequence determine which tests most closely match the testing and/or instructional objectives.

After careful research of published tests, you may decide that the course or course sequence contains too many unique elements and requires the development of a special measure. Below is a checklist of activities to help you.

Checklist for Developing Instruments

- ___1. In order to identify the appropriate content for the test, begin by specifying the instructional objectives to be tested.
- ___2. Construct a table of specifications or test blueprint incorporating the following elements:
  - ___a. The specific "content areas"—the important things a person who has studied the subject is expected to know.
  - ___b. The intellectual skills required.
  - ___c. The total number of questions to be asked.
  - ___d. The number of questions needed in each content/skill category to represent its relative importance.

An example of a test blueprint used to construct a Chemistry Examination is presented in Figure 2.1.

- ___3. Identify the individuals who will write the questions and the material they are to use.
- ___4. Determine the types of questions (multiple-choice, essay, true-false, etc.) to be used for the test. To some extent, the subject matter will influence the choice of question format (type). For example, in a test of a student's map-reading skills the use of maps in the questions is necessary.
- ___5. Decide on how difficult the questions in the test should be. For example, should the ques-

Figure 2.1. An example of a test blueprint for constructing a chemistry examination

Number of Questions Required

Content Areas	*Skills*			
	Exact Definition of Technical Terms	*Understanding of Basic Scientific Principles*	*Application of Principles to Familiar and Unfamiliar Situations*	*Handling of Quantitative Relations*
Atomic Structure	2	3	5	3
Chemical Bonding	2	3	5	3
States of Matter	3	3	5	3
Stoichiometry	2	2	5	2
Energetics in Chemical Systems	3	3	5	3

tions be aimed only at the minimally qualified students or spread over the full range of qualified students?

__ 6. Prepare the questions.
__ 7. Have the questions edited by someone other than the writers.
__ 8. Have the questions independently reviewed by other competent colleagues.
__ 9. Rewrite the questions based upon the results of items 7 and 8.
__ 10. Prepare a scoring key or procedure.

See Appendix A for an illustration of some of the considerations in developing an instrument locally, in this case a Calculus Exemption Examination.

Along with the checklists of activities to either select or develop the appropriate instruments, you need to set up a timetable. The length of the timetable depends upon the type and extent of the checklist developed as well as the number and type of personnel available to accomplish the task. Allow enough time for each activity to be accomplished as well as a little extra cushion of time (approximately 10 percent) for unexpected delays. Be sure that the responsibilities of all the individuals involved are clearly defined and that each is aware of all timetable deadlines (excluding the cushion portion).

STEP 4: Determine the Reliability and Validity of the Instruments through Experimental Administration

Once the instruments have been selected or developed, it is necessary to establish procedures for determining their reliability and validity (which are useful in judging the quality of a measuring instrument). Reliability refers to the degree to which a measuring instrument is accurate or free from error. For example, a perfectly reliable test would yield the same score for a student if the test were readministered to the student (assuming no effects from additional learning, practice, etc.).

Estimating Reliability

Unfortunately, there is no direct way of determining reliability by discovering what proportion of a measuring instrument's scores are free from error. There are, however, various methods of arriving at estimates of reliability, most of which involve comparisons of two scores for all the individuals in some defined group. The degree of relationship between the two sets of scores is expressed in terms of a correlation coefficient which can range from +1.00 (indicating perfect agreement or no error) through .00 (indicating no agreement or complete error) to −1.00 (indicating perfect disagreement and no error). Instruments developed for classroom use typically have reliability coefficients ranging from .40 to .80. The three most common methods for estimating reliability are (a) an internal analysis of the test scores obtained by using the test once, (b) a correlation of the scores from two forms of the test given at about the same time, and (c) a correlation of the scores between a test and retest at a later time.

Types of Validity

Validity refers to the extent to which a test is measuring what it is supposed to measure, which assumes that one can determine what the test *does* measure. Logical validation is concerned with the question "What does the test measure?" and empirical validation is concerned with the question "To what extent does the test measure what it is supposed to measure?" Before identifying the different types of logical and empirical validation procedures, it is worth emphasizing that different validation approaches may be appropriate in different situations. Five separate types of validity are described, one in the logical area and four in the empirical area.

1. A logical validation requires judgment on the "content validity" of the test. In other words, do the questions and format of the test correspond to the instructional objectives of the course? This judgment is most appropriately made by experts in the content area (i.e., instructors). Content validation is always *essential* in the development of any placement or exemption program since the tests will be used to reflect course and sequence outcomes. In addition, since many colleges may not have access to test and measurement specialists, content validation may be the only type of validation that they can undertake.

2. One type of empirical validation is the "comparison of the test scores of students completing successive courses in a sequence" (e.g., first, second, third, and fourth semesters of French) to determine if the test can distinguish between the courses. This type of validity, however, applies only to a series of courses in which generally similar content

is included throughout the series so that it is reasonable to cover all that material in one test. This method would not apply to a series of courses in mathematics, for example, where each course covered a different topic.

3. A second type of empirical validation is the "measure of student gain in achievement after taking a relevant course." This is a more generally applicable method of validation than (2) above, but requires testing both before the course starts and after the course ends. The gain should be much more substantial in a placement test that closely corresponds to a specific local course than in an exemption test in a particular subject area.

4. A third type of empirical validation, called "experimental," refers to the results of trait-treatment interaction studies. The primary purpose of such studies is to identify students who will perform differently in alternate treatments. This type of validation is likely to be of interest only to experienced researchers, who should refer to the discussion in CPE (pp. 10-16, 28-31) for more specific information.

5. The fourth and possibly weakest type of empirical validation is called "concurrent validation." This is typically expressed as a relationship between test performance and an accepted contemporary criterion (i.e., correlation between course grades and test scores obtained at the end of instruction). If a test closely corresponds to the content of a course, it would be expected to have a more substantial correlation with final grades in that course, but, at the same time, if the instruction is effectively carried out and if many students master the material then the correlation would be depressed, perhaps substantially, because the range of student performance would be very restricted. Consequently, one is left not knowing what to expect other than the fact that a concurrent validity coefficient will frequently lie in the mid-range of .40 to .60.

Although five types of validity have been described, all institutions should conduct content validation on the examination to be used. Institutions should attempt to gather further empirical evidence as soon as possible in order to evaluate the appropriateness of the examination.

Test publishers usually report the reliability and validity data in their test manual or interpretation information. If you do not find such data reported, be prepared to conduct your own experimental administration of the instrument following the procedures outlined below. Do not assume that a particular test is either valid or reliable simply because it is marketed by a test publisher unless evidence of either or both is provided. When such evidence is presented be sure to check the characteristics of the groups used to generate the evidence to see if they are comparable to your own student group.

Conducting a Pilot Study

A pilot study, or experimental administration of the instrument, usually precedes the actual use of the instrument. In setting up experimental administrations you must determine, first, what is the appropriate group to be tested, and second, how large and representative the sample of this group should be. One of the types of empirical validation requires giving the tests in the beginning of a course or course sequence and again at the end. Ideally, parallel test forms should be used. If the test measures what is being taught, and if, on the average, students learn, there should be a significant gain in performance. Moreover, scores on the post-test should correlate positively with course grades.

The next step is to decide on who will be responsible for providing the test materials, administering the tests, collecting the responses, and analyzing the data. Before the data are analyzed, you must agree on what will be regarded as providing acceptable reliability and validity evidence (rarely for a placement or exemption test is a value lower than .80 chosen for reliability and a value lower than .30 for validity).

After establishing the procedure for determining the reliability and validity of the instruments, you need to consider the methods of reporting those results for discussion and decision making. If the individuals who are to make the decisions about the "acceptable" reliability and validity evidence are the instructors who teach the courses, chances are they have little knowledge of measurement and statistics. In that case, a great deal of graphic material should be presented along with nontechnical explanations. Try to present the evidence by using simple diagrams such as score distributions on a common scale. Ideally, the individuals who should be involved in this process are the teaching faculty, a departmental decision maker, and an instructional research or resource person.

When presenting the results, have all the available

data on hand, including the individual student scores. It is better to have more information than is required than to arouse suspicions that something is being "withheld." Even though the faculty and departmental representatives are the ones making the final decisions about the appropriateness of the measure used, it is a good idea to have some tentative interpretations and suggestions prepared for their consideration. Many times this will save much wasted effort and help to focus on the main problem of concern.

STEP 5: Determine Decision Scores

Probably one of the most important judgments concerning the placement and exemption measures to be used is what the decision scores (or cutting scores) should be. Technically, the decision scores should be a logical consequence of the validity studies, discussed above. For example, when a new student is given the test as an exemption examination, his being granted credit is contingent upon where his test score ranks compared to the scores of students who have completed the course or course sequence. Similarly, placement is also contingent upon a certain level of test performance compared to that of students who have completed the course or course sequence. Typically, this means performance equal to or better than C students.

Before setting decision scores, you must be cognizant of such essential concerns as (a) how particular decision scores relate to grades earned in relevant courses, (b) how many students would be exempted from the relevant course, (c) what grade and score would be considered "passing," (d) whether the decision scores should be set at a conservative or liberal level, (e) whether there is a fixed quota of students that can be accommodated in a particular course or course sequence, etc.

Moreover, you should be aware of some of the consequences of using a particular decision score, for example, (a) students would be discouraged from attending the institution, (b) too many students would be exempted from a basic course sequence resulting in fewer majors in that area, (c) students would gain too much credit for coursework resulting in decreased funding for the institutions, (d) the students who are exempted from the first course in a sequence would not have the requisite skills for the second, (e) faculty loads would be affected in a detrimental way, etc.

In light of these concerns, the checklist below is intended to help you arrive at appropriate decision scores.

Checklist for Determining Decision Scores

- ___ 1. Prepare the validity data (e.g., how the test scores and course grades are related) in an easily readable and interpretable format.
- ___ 2. Prepare appropriate graphic material for the validity data.
- ___ 3. Provide a preliminary draft of the validity data to the faculty and departmental representatives at least one week before they meet to discuss the decision scores.
- ___ 4. At the meeting, present the data orally and discuss it.
- ___ 5. Have the actual data used in the validity study available for perusal at the meeting.
- ___ 6. Determine the minimum acceptable grade (or range of grades) for each decision score.
- ___ 7. Suggest the proposed decision scores based upon the information and data in the steps above.
- ___ 8. Indicate how many students would be exempted from (or placed in or given credit for) the relevant course based upon the proposed decision scores.
- ___ 9. Discuss the implications (consequences) of adopting the proposed (or other) decision scores.
- ___ 10. Determine if another meeting is needed or if all are prepared to agree on a set of decision scores.
- ___ 11. After an agreement has been reached on the decision scores have each member of the committee acknowledge it in writing.
- ___ 12. Inform the appropriate individuals and groups of the agreed upon decision scores.

STEP 6: Arrange for Routine Administration

After the instruments and their corresponding decision scores have been selected, methods ranging from administering through reporting the results of the testing need to be established. For example, who is to be responsible for ordering or producing the test materials—a central testing office, or the department, college, etc.? Who is to be responsible for scheduling the time and place of the testing, espe-

cially if special rooms are needed at special times? Who is to be responsible for administering the tests and collecting the materials—the instructor, a testing person? The answers to many of these questions depend upon whether or not there is a central testing office in the institution and what the budget of that office or of the relevant department is for testing needs.

Methods will have to be set up for handling the test results after they are collected. Who will do the actual scoring—clerks, students, optical scanners, computers, etc.? Is there a computer program or format for reporting the test results? Once the results are produced, will they be recorded on the student's permanent record; if so, how will this be done? Will the results be provided to the students, advisors, etc.? Will interpretive information be provided to both the student and the advisor so that intelligent use can be made of the results?

One way to help students make maximum use of their test results is to provide them with a means of programmed self-advising. Examples of just such a system are presented in Figures 2.2 and 2.3. Figure 2.2 shows an example of the University of Illinois at Urbana-Champaign (UIUC) Placement and Proficiency Test results form. Figure 2.3 is an excerpt from the UIUC Student Self-Counseling Manual (Gilbert and Ewing, 1968), which shows how to interpret the test results and make up a course schedule for the first semester and possibly beyond.

In obtaining and presenting test result information such as that presented in Figure 2.2 an important consideration is whether any comparative data should be gathered and presented. To answer such a question, you must determine whether comparative data are needed and useful, in other words, whether such data would affect the decisions made on the basis of the test results. If you decide to provide comparative data, you must determine who the comparative group should be and when the comparative measures should be taken. Generally, such comparative data are used to establish norms by which individuals in later groups can be judged qualitatively. Therefore, one must also determine how the comparisons are to be reported. In Figure 2.2, comparative data are provided by means of deciles ranging from 0 to 9 indicating how each student's score compares to scores of students the previous year in the same college as well as in the university.

Finally, it is important to realize that whatever the decision scores used, some misplacements will be made, especially for those within one or two points of the decision scores. Therefore, advisors and instructors alike should be alerted to the fact that certain individuals may need to be either placed back or placed forward depending upon their performance in the first two weeks of the course.

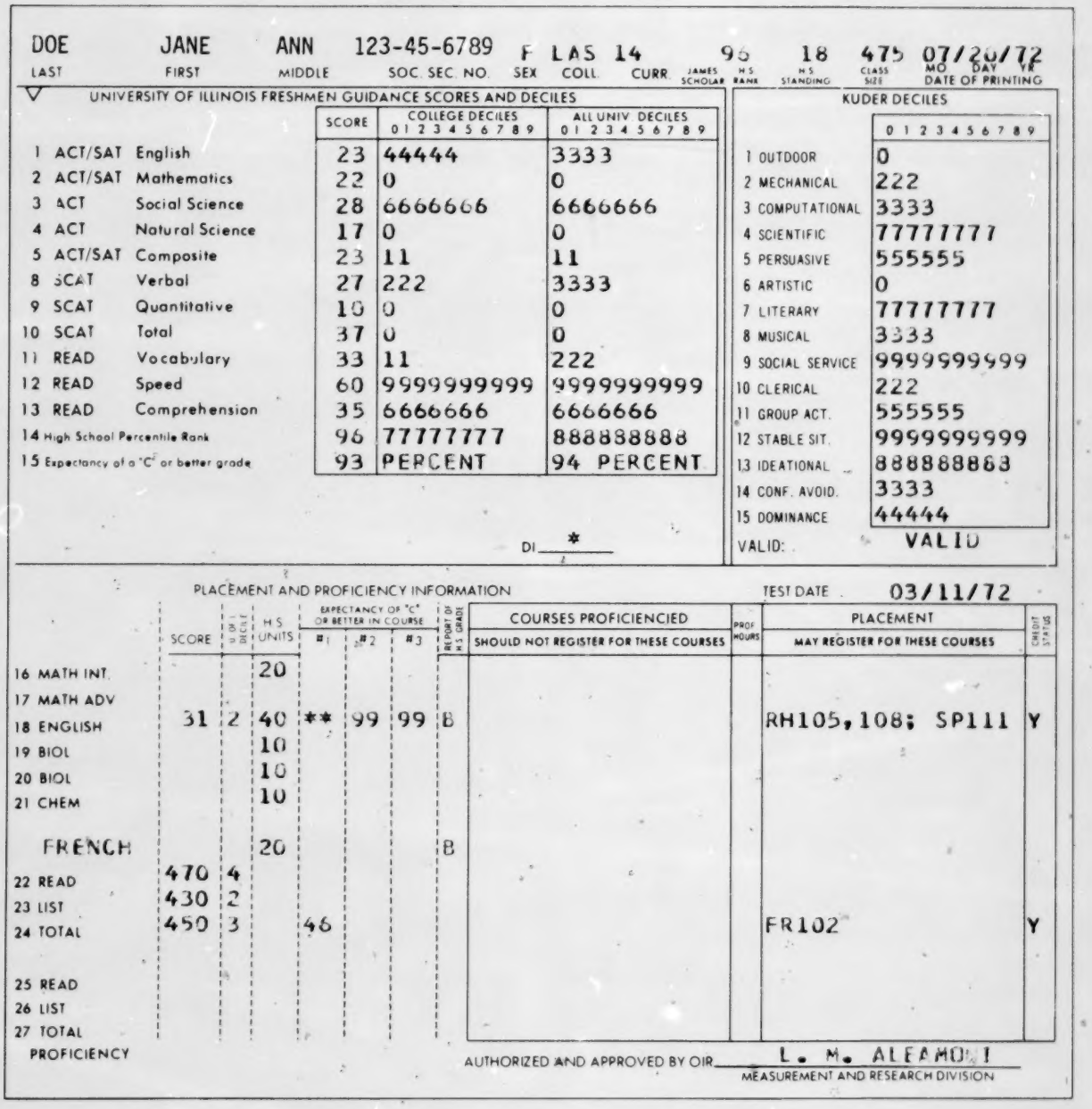
STEP 7: Develop an Evaluation Plan

After going through all the trouble of setting up a placement and exemption program, you must be sure to develop the methods of evaluating how well the program is working and specifying when and by whom follow-up data will need to be gathered. Suppose, for example, that a placement examination was designed to place competent freshmen into a calculus course. The follow-up data needed to determine effectiveness might be how many of the students completed the calculus course and how they performed compared to the rest of the class. If this is the first year using the placement examination and if the same final examination was used in the previous year's course, a comparison of the calculus class results between the two years would be important. It is suggested that you do not use the end-of-course grades in this comparison because they are notoriously subject to unconscious grading variations that can be quite substantial in many cases. It is preferable to use a common examination (whatever the type) across several sections of the course, making sure that it is rated blind so that the readers are not aware of which section a student has come from. Another method of evaluating the effectiveness of the activity is to gather attitudinal information from both the students and the faculty who are affected by the program. If it is possible to gather attitudinal information before the program was initiated and after, that would be even more useful.

Finally, it is necessary to gather evaluative information that might be used to rectify placement mistakes. For example, systematic recording of placements that have to be changed early in a term because the student or an instructor realized that the student was simply in the wrong section can be used either to adjust decision scores or alert advisors to potential problems.

In these fiscally lean days for higher education,

Figure 2.2. The UIUC's Placement and Proficiency Test Results Form



DOE (LAST) JANE (FIRST) ANN (MIDDLE) 123-45-6789 (SOC. SEC. NO.) F (SEX) LAS (COLL.) 14 (CURR.) 96 (JAMES SCHOLAR) 18 (H.S. RANK) 475 (H.S. STANDING) 07/20/72 (CLASS SIZE; MO DAY YR DATE OF PRINTING)

UNIVERSITY OF ILLINOIS FRESHMEN GUIDANCE SCORES AND DECILES

			SCORE	COLLEGE DECILES 0 1 2 3 4 5 6 7 8 9	ALL UNIV. DECILES 0 1 2 3 4 5 6 7 8 9
1	ACT/SAT	English	23	44444	3333
2	ACT/SAT	Mathematics	22	0	0
3	ACT	Social Science	28	6666666	6666666
4	ACT	Natural Science	17	0	0
5	ACT/SAT	Composite	23	11	11
8	SCAT	Verbal	27	222	3333
9	SCAT	Quantitative	10	0	0
10	SCAT	Total	37	0	0
11	READ	Vocabulary	33	11	222
12	READ	Speed	60	9999999999	9999999999
13	READ	Comprehension	35	6666666	6666666
14	High School Percentile Rank		96	77777777	888888888
15	Expectancy of a "C" or better grade		93	PERCENT	94 PERCENT

DI *

KUDER DECILES

		0 1 2 3 4 5 6 7 8 9
1	OUTDOOR	0
2	MECHANICAL	222
3	COMPUTATIONAL	3333
4	SCIENTIFIC	77777777
5	PERSUASIVE	555555
6	ARTISTIC	0
7	LITERARY	77777777
8	MUSICAL	3333
9	SOCIAL SERVICE	9999999999
10	CLERICAL	222
11	GROUP ACT.	555555
12	STABLE SIT.	9999999999
13	IDEATIONAL	888888883
14	CONF. AVOID.	3333
15	DOMINANCE	44444

VALID: VALID

PLACEMENT AND PROFICIENCY INFORMATION — TEST DATE 03/11/72

	SCORE	H.S. DECILE	H.S. UNITS	EXPECTANCY OF "C" OR BETTER IN COURSE #1	#2	#3	REPORT OF H.S. GRADE	COURSES PROFICIENCED — SHOULD NOT REGISTER FOR THESE COURSES	PROF. HOURS	PLACEMENT — MAY REGISTER FOR THESE COURSES	CREDIT STATUS
16 MATH INT.			20								
17 MATH ADV											
18 ENGLISH	31	2	40	**	99	99	B			RH105,108; SP111	Y
19 BIOL			10								
20 BIOL			10								
21 CHEM			10								
FRENCH			20				B				
22 READ	470	4									
23 LIST	430	2									
24 TOTAL	450	3		46						FR102	Y
25 READ											
26 LIST											
27 TOTAL PROFICIENCY											

AUTHORIZED AND APPROVED BY OIR L. M. ALEAMONI
MEASUREMENT AND RESEARCH DIVISION

Figure 2.3. Sample interpretation sheet from the UIUC Student Self-Counseling Manual to be used with the Test Results Form

STUDENT BOOKLET

This booklet is to be used in conjunction with the Self-Counseling Manual.

Most of the test scores reported on the test cards on page 2 compare you with other entering students at the University of Illinois by means of decile scores. These decile scores are to be used throughout your reading of the Self-Counseling Manual, and it is important that you clearly understand their meaning. A decile score is computed by dividing into tenths the group of students with whom you are compared. The highest decile (9) includes the 10 percent of students with the highest scores. What each decile score means is described below.

Read this carefully!

Decile Score	As compared with other students your score is:
9	Among the highest 10% (Better than 90%)
8	Better than between 80% and 90%
7	Better than between 70% and 80%
6	Better than between 60% and 70%
5	Among the 10% just above average (Better than between 50% and 60%)
4	Among the 10% just below average (Better than between 40% and 50%)
3	Better than between 30% and 40%
2	Better than between 20% and 30%
1	Better than between 10% and 20%
0	Among the lowest 10%

Your ability, interest, and placement test results

Carefully examine the test results provided here. In order to be certain that you correctly identify the meaning of each test score, you are to copy the decile score for each test onto the opposite page. As you copy each score, read the definition of that score on the opposite page.

Where both "College" and "All-Univ." deciles are given, copy the "College" deciles which compare your score in each case with the scores of other students entering the college you plan to enter.

Copy your test scores onto the opposite page and read carefully the description of the meaning of each test score.

any assessment of an educational product must deal with such questions as (a) what is the cost of the program? (b) what is the cost of the instruction? and (c) is there a cost advantage (benefit) for placement or exemption activities? In a recent article on how such a cost/benefit analysis m ght be conducted (Stallings, Aleamoni, and Heil, 1972), examination costs were categorized by test administration; test processing, analysis, and dissemination; and data processing. Then the examination costs were divided by the number of examination credit hours, yielding a figure of $7.09 per examination credit hour. This figure was then contrasted with an unofficial instructional cost of $15.18 per credit hour for lower division undergraduate courses. With such information available, you are in a much better position to argue for or against the continuation of such activities.

STEP 8: Develop a Procedure for Periodic Review and Modification

An important final step in implementing a placement and exemption program is the process of periodic review and modification of the policies agreed upon. The academic department is clearly the first link in the decision-making chain concerning the establishment of policies regarding such activities related to its courses. College and university representatives should be involved to the degree that the policies affect them. The department should determine, if not be instrumental in designating, which committees or offices need to be involved in establishing the policies. For example, a placement and exemption policy that will affect students in all colleges of the university should be brought up to a committee of representatives from each college.

Because the pattern of entering students' preparation, abilities, and interests is subject to change and because courses are subject to change, policies should be reviewed every year, and formal revalidation of examinations should take place at least every three years. Although the final responsibility of initiating a modification of policies rests with the department concerned, the individual, agency, or office responsible for administering and conducting the studies should be responsible for alerting the department about needed modifications.

3. *Design and Validation of a Placement Model: Vertical Sectioning in Foreign Language Courses*

This chapter describes how one of the CPE placement models – Model 3: Vertical Sectioning – can be used to assign entering freshmen to courses (and sections of courses) that fit their diverse abilities and achievements. A detailed substantive example then illustrates the eight steps presented in Chapter 2.

Placement has been defined in CPE as the positioning of students at the optimal point in an instructional sequence on the basis of how much the student knows about the subject. Placement therefore depends on the results of various subject-matter tests. Treatments (courses or sections) vary according to how elementary or advanced the subject matter is or at what pace the student is expected to master the material, but they always have a common subject-matter criterion at the end of the sequence. The general purpose of placement is to match the content of instruction with what the student needs to learn next.

Vertical sectioning, the placing of a student at an appropriate point within a course sequence, involves two decisions: (1) what is the most appropriate point of entry within a sequence for a particular student, and (2) whether to waive prerequisite courses in the sequence. Five foreign language departments at the University of Illinois at Urbana-Champaign (UIUC) use examinations for placement and exemption decisions in their introductory courses. This program provides an excellent example of vertical sectioning which involves placing students at appropriate points within a course sequence. It also provides an example of how examinations can be used for both placement and exemption.

Here is how the eight steps presented in Chapter 2 were followed in implementing the foreign language placement and exemption program at the UIUC.

STEP 1: Purpose of Placement and Exemption

Representatives of the Measurement and Research Division (MARD) of the Office of Instructional Resources at the UIUC approached the departments of French, German, Latin, Russian, and Spanish about developing a placement and exemption examination program. Each of these foreign languages has a basic two-year sequence which also serves as the foreign language requirement of the UIUC and in particular is required for all Liberal Arts and Sciences (LAS) students. Students who have taken four years of one language in high school, however, are exempted from the foreign language requirement because it is assumed that those four years would be equivalent to four semesters of UIUC college foreign language. This assumption was then generalized to an advisory policy which assumed that one high school year was equal to one college semester of work. It was uncertainty about this assumption plus a desire on the part of the foreign language teaching faculty to homogenize the varying ability levels in their introductory courses that made them receptive to a proposal to develop a placement and exemption (P/E) system. The foreign language departments also felt that such a system might encourage more students to consider foreign language as a major by recognizing their previous equivalent performance and placing them at a more appropriate level of coursework.

A committee made up of one representative from each of the five foreign languages and one LAS college representative was designated to work with a representative of MARD in developing a P/E program. This committee was empowered by the departments and colleges to make all final decisions concerning the establishment and implementation of the program.

STEP 2: Major Instructional Objectives

The committee specified the first four semesters of coursework with the common numbers of 101, 102, 103, and 104 to be the objects of the P/E program. They further specified that the foreign language competencies of knowledge and application of reading, writing, speaking, and listening skills taught by these courses were appropriate but that students could also demonstrate these competencies by examination. They felt that the examinations and evaluations currently used in these courses reflected the instructor, college, department, and university objectives for foreign language learning, and therefore agreed that students' grades based upon these measures would be an accurate criterion measure. That measure could then be used to make judgments about both placement and exemption.

STEP 3: Test to Be Used

After considerable discussion, and after considering the results of an earlier study in this area (Aleamoni and Spencer, 1968), the committee agreed to two types of examinations in combination for the P/E program: an objectively scored reading test, and an objectively scored listening test. It was decided that these examinations would be secured from a test publisher rather than developed on campus.

The Checklist for Identifying and Selecting Published Instruments was employed in the following manner: The MARD representative investigated the tests in Buros' Mental Measurements Yearbooks, catalogs and announcements from the major test publishers, and *Measurement News* and the *Journal of Educational Measurement*, and identified several instruments as possibilities. After discussing these tests and the descriptive material provided by the MARD representative, the committee decided that they wanted the test publisher to provide some guarantee of security so that once used, the test questions would not be easily available to all possible test takers. In addition to test security, the committee decided that multiple forms of the examination would be needed to avoid giving the same form every year. With these considerations in mind, the committee requested copies of the College Board's placement tests in both Reading and Listening for French, German, Russian, and Spanish, and for Reading only in Latin, for a more careful inspection.[1] The specimen set copies were reviewed care-

1. These tests are retired forms of the Achievement Tests of the College Board Admissions Testing Program and are available through Testing Academic Achievement, a program that makes available subject matter examinations for administration by institutions. For further information see *Testing Academic Achievement*, College Board Publications Order Office, Box 2815, Princeton, New Jersey 08541.

Figure 3.1. Suggested procedures for providing sufficient student motivation in examination validation.

Measurement and Research Division - Office of Instructional Resources
307 Engineering Hall - 333-3490

Placement Proficiency Examination Validation: Student Motivation

A major component of the validation procedure is based upon the administration of the P&P examination to students at all levels of the appropriate course sequence at or near the completion of a course. It is assumed then that the resulting P&P test scores reflect the students' abilities at the completion of the course; the abilities of entering freshmen are then compared with these "final" abilities to decide on proper placement and proficiency.

For this approach to produce valid results, it is essential that the students involved in the validation testing be motivated to do well on the test. That is, the validation test scores will not reflect the students' actual abilities unless adequate motivation is present.

The only approach which has proven to be effective in providing sufficient motivation, thus far, is making the students' final grade dependent, to a certain degree, on their P&P test scores obtained during the validation testing.

Various other approaches to this motivation problem have been attempted by the Measurement and Research Division (MARD) staff in recent validations. For example, students in one department were told that their honest effort was needed to help the department make better P&P decisions in the future. Students in another department were told that the test score would count toward their grades if the grade was "borderline." The data from both of these later approaches were not found to be a valid representation of the students' actual abilities. Therefore, to avoid wasting the time and resources of the students, instructors, departments, and the MARD staff, the following condition is viewed as necessary for involvement of MARD in P&P examination validation: A student's score obtained in the validation testing must count significantly toward the student grade. It is suggested that the test score contribute at least 5% (and preferably 10%) to the grade. The MARD staff will, of course, be very interested in any alternative approaches suggested by departments which would ensure student motivation.

The justification for using a P&P test score as a contribution to the final grade is straightforward. If a department feels that a given examination is sufficiently valid for awarding proficiency credit for a course, then the examination should, by definition, measure skills which are important in the course, and therefore be useful for measuring a student's final ability level.

The MARD staff appreciates the cooperation and suggestions which have been received from departments and individuals. We sincerely request any suggestions which will assist the University in maintaining an accurate and flexible P&P system.

fully by the committee and by selected faculty members of each department who were responsible for the 101-104 courses. Following the review it was decided to use these examinations.

STEP 4: Test Reliability and Validity

The MARD representative was asked to present a plan for administering the examinations experimentally. The experimental administration plan follows.

1. Since reliability coefficients of above .80 were reported by the test publisher on seemingly comparable student populations, no further reliability checks will be considered.

2. Three types of validation are to be conducted with the examinations. The first is a content validation by the committee and selected faculty members of each department who are responsible for the 101-104 courses. (This validation was done in the preceding step when the specimen sets were reviewed and the conclusion was that the examinations reflected the instructional objectives of the courses concerned.) The second and third types of validation represent the "comparison of the test scores of students completing successive courses in a sequence" and "concurrent validity," respectively.

3. In order to accomplish the second and third types of validation, all currently enrolled students in the 101-104 courses in the five foreign languages are to be subjects of the study. In addition, the students' final grades in the course (excluding the College Board test contribution) will be the criterion measure used.

4. The students will take the College Board Reading and Listening tests during their regularly scheduled final examination period in addition to the course final examination.

5. To keep their motivation level high and consis-

Figure 3.2. Sample table of raw score and standard score data presented to the committee for consideration

Standard Score Equivalents of UIUC Mean Scores for Foreign Language Classes—January 1970

Course Name and Level	*Reading*		*Listening*	
	UIUC Mean (Raw Score)	*College Board[1] Standard Score*	*UIUC Mean (Raw Score)*	*College Board Standard Score*
French 101	9.78	425	7.37	444
102	21.57	488	11.61	480
103	31.36	541	14.72	507
104	41.31	595	24.02	588
German 101	5.48	404	3.88	406
102	24.62	497	13.74	488
103	37.54	560	16.05	504
104	50.35	622	21.65	538
Russian 101	5.69	352	7.46	416
102	21.32	449	8.79	428
103	37.17	519	13.54	465
104	35.20	511	17.70	500
Spanish 101	6.19	440	8.05	423
102	11.41	471	14.92	471
103	23.60	546	19.83	507
104	28.72	576	24.36	538

1. The College Board standard scores range from 200 to 800 and were devised in 1941 so that the SAT candidate would have an average score of 500, with approximately two-thirds scoring between 400 and 600 (that is, the standard deviation is 100).

tent, the students will be informed by their instructor that the College Board tests will be used as part of their final examination in determining grades. (See Figure 3.1.)

6. MARD will provide test administrators for the College Board tests, and the instructors and their teaching assistants will be present to serve as proctors during the examination.

7. MARD will secure the test booklets and audiotapes needed, and will supply the answer sheets and pencils.

8. Test security and dissemination and collection of all test materials will be the responsibility of MARD.

9. MARD will conduct all analyses of the test responses and prepare the results in a readable and interpretable form for presentation to the committee. (See Figure 3.2.)

10. The analyses will consist of determining (a) what differences exist among students enrolled in the 101-104 courses as measured by the College Board tests, and (b) the degree of relationship be-

Figure 3.3. Sample table of more detailed examination score and grade results presented to the committee for consideration

Standard Score Mean Test Results and Course Grades

French

Course Level	N	Course Grade		Reading		Listening		Average	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
101	355	3.92	.93	425	47.5	444	49.8	437	42.7
102	196	3.44	.95	488	48.0	480	55.4	487	45.3
103	279	3.45	1.00	541	69.8	507	69.2	527	61.8
104	127	3.80	.97	595	69.0	588	75.5	594	64.4

German

Course Level	N	Course Grade		Reading		Listening		Average	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
101	323	4.22	.84	404	36.7	406	62.1	408	42.7
102	117	3.60	1.04	497	62.3	488	71.6	495	61.6
103	238	3.59	.99	560	76.9	504	79.3	534	72.0
104	54	3.94	1.07	622	83.9	538	80.4	582	77.6

Russian

Course Level	N	Course Grade		Reading		Listening		Average	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
101	70	4.01	1.10	352	53.6	416	49.8	386	44.8
102	19	4.05	.85	449	54.9	428	57.1	441	47.6
103	41	3.76	1.04	519	60.6	465	65.3	495	57.2
104	10	4.50	.71	511	82.1	500	75.9	508	72.5

Spanish

Course Level	N	Course Grade		Reading		Listening		Average	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
101	253	3.46	1.11	440	43.2	423	51.5	434	42.2
102	133	3.24	.97	471	64.1	471	68.3	474	60.0
103	161	3.47	1.04	546	74.3	506	80.6	529	70.6
104	54	4.23	.83	576	82.4	538	75.8	560	72.8

tween the College Board test scores and grades received in the various courses. (See Figure 3.3.)

11. Since significantly different test scores between students completing the 101-104 courses and validity correlation coefficients of .40 to .60 are normally expected in order to arrive at meaningful decision scores, these criteria will be employed.

12. MARD will provide a recommended set of decision scores based upon (a) the course difference analysis, and (b) the course grade versus College Board test score comparisons. (See Figure 3.4.)

The type of information items 9 and 10 call for should begin with very basic data. In the UIUC example, the committee was provided with average raw scores (means) which were converted to College Board standard scores so that the committee could determine how these students compared to the national normative population. Figure 3.2 is the table that presented this information. Figure 3.3 presents a more detailed breakdown of the standard score test results and course grades for the committee's information. The standard deviation (SD) presented in these figures is used to indicate the degree of variability or dispersion of scores—the larger the value the greater the variability.

Once the basic data were presented, analysis was undertaken. The results of statistical tests of significance on the mean scores for the languages indicated that each course was significantly different from the others, progressing from low scores in 101 to high scores in 104 (Aleamoni, 1973). The correlation data and the distribution of grades plotted on the College Board standard score base presented in Figure 3.4 helped the committee to see that the College Board scores could be used to differentiate between successful and unsuccessful students in each course.

The committee felt that the score differences were a realistic representation of the students' performance in the 101 through 104 courses. They also felt that even though the listening test was providing redundant information to the reading test, it should still be used in the placement scheme. The distribution of grades plotted on the College Board standard score scale (presented in Figure 3.4) convinced the committee that a decision score could be determined that would separate basically the successful from the unsuccessful students in each course.

STEP 5: Determining Decision Scores

Two tables were generated from the analyses of the test data (see Figure 3.5), one containing decision scores based upon the mean College Board score at each course level, and the other containing decision scores based upon the point at which D and E grades no longer appeared. The resulting tables were very similar.

Because of the great similarity between the two decision-score tables, the committee decided to use the first table in Figure 3.5 as the basis for the decision scores in the placement scheme. Then, accepting the assumption used in a previous study (Aleamoni and Spencer, 1968) that one year of high school study was equivalent to one semester of college study, the committee generated the following normal placement table:

Years of High School Study	*Normal Placement*
0	101
1	102
2	103
3	104
4	Beyond 104

The committee then decided that any student who placed beyond this normal placement would, depending on the average of the student's combined reading and listening standard scores, be given exemption credit for each course skipped up to a maximum of four courses.

Next, the P/E scheme agreed upon by the committee (see Figure 3.6) was presented first to the LAS faculty, who approved it, and then to the UIUC Assistant and Associate Deans Committee to secure campus-wide approval since the foreign language policy would affect other colleges as well. The Deans Committee approved the proposed system.

STEP 6: Routine Administration

Following approval of the proposed P/E scheme by the appropriate groups, MARD was asked to establish the procedures needed to obtain and administer the examinations and to analyze and report the results of the testing. The procedures MARD established to accomplish these tasks are presented below.

Figure 3.4. Sample table presented in conjunction with the correlation data indicating that it is possible to differentiate between successful and unsuccessful students in each course using the College Board test scores

Distribution of Course Grades Plotted on Average College Board Standard Scores

German

College Board Standard Scores	101					102				
	E	D	C	B	A	E	D	C	B	A
790										
780										
770										
760										
750										
740										
730										
720										
710										
700										
690										
680					1					
670										
660										
650					1					
640										
630										
620										
610									1	
600					1					
590									1	
580					5					
570					1			1	6	1
560										
550					1				3	1
540				1				2	6	
530					2			2	3	2
520								3	7	2
510				2	3				4	2
500					5		1	1	1	2
490				2	4			1	5	1
480				2	5		1	2	4	1
470				3	6		1	1	1	
460				2	12		1	4	1	
450				7	7	3	1	3	1	
440			3	4	8		1	1	1	1
430		1	1	8	12		1	3		
420			1	3	13			1	1	
410			5	16	15		2	2		
400		1	5	10	21	2		1		
390		1	5	15	11		1	2	3	

College Board Standard Scores	103					104				
	E	D	C	B	A	E	D	C	B	A
790					1					
780										
770										
760					1					
750										
740										
730										1
720					2					
710					1					1
700					1					2
690					1					2
680			1					1		
670					1					
660				1	1			1		1
650					2				1	1
640				1	3					3
630				2	6				2	1
620			1	3	5				1	1
610				2	3			1		1
600			1	1	3			1	1	
590			4	3	2			1	2	3
580			2	7	4				1	1
570			2	3	2				1	1
560			2	6	2			2	1	
550			6	7	1	1			1	1
540		3	8	2	2				1	
530		1	9	9	2			1	2	
520		2	6	3	3		1	1		
510		1	4	3	1					
500		2	4	3	1				1	
490	1	2	4	1	2					1
480		1	11	2				1		
470		1	8	1						
460	1	3	2	2				3		
450	1		4		1					
440	1	3	4			1				
430	1	1	3							
420			1				1			
410			3							
400		1	1	1						
390								1		

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Figure 3.4 *(Continued)*

German

College Board Standard Scores	101					102				
	E	*D*	*C*	*B*	*A*	*E*	*D*	*C*	*B*	*A*
380		1	14	11	7					
370		2	4	12	6	1			1	
360			5	6	4					
350		2	1	9	2					
340		1	2	3	1					
330		1	1	1	1					
320				2						
310	1	1		1						

College Board Standard Scores	103					104				
	E	*D*	*C*	*B*	*A*	*E*	*D*	*C*	*B*	*A*
380			1							
370										
360		1		1						
350										
340		1								
330										
320										
310										

Figure 3.5. Sample tables presenting two proposed ways of determining decision scores for the Foreign Language courses

Decision Scores Determined by Mean College Board Standard Score Differences

French		*German*		*Russian*		*Spanish*	
Average St. Score	*Placement Level*	*Average St. Score*	*Placement Level*	*Average St. Score*	*Placement Level*	*Average St. Score*	*Placement Level*
200-439	101	200-409	101	200-389	101	200-439	101
440-489	102	410-499	102	390-449	102	440-479	102
490-529	103	500-539	103	450-499	103	480-529	103
530-599	104	540-589	104	500-559	104	530-559	104
600-800	Beyond 104	590-800	Beyond 104	560-800	Beyond 104	560-800	Beyond 104

Decision Scores Determined by Passing Course Grades

French		*German*		*Russian*		*Spanish*	
Average St. Score	*Placement Level*	*Average St. Score*	*Placement Level*	*Average St. Score*	*Placement Level*	*Average St. Score*	*Placement Level*
200-439	101	200-439	101	200-389	101	200-479	101
440-519	102	440-509	102	390-409	102	480-489	102
520-539	103	510-549	103	410-459	103	490-559	103
540-549	104	550-559	104	460-519	104	560-599	104
550-800	Beyond 104	560-800	Beyond 104	520-800	Beyond 104	600-800	Beyond 104

Note: College Board scores are now reported with the third digit rounded.

A testing and measurement specialist was given the responsibility to do the following:

1. Order the test booklets and answer sheets—in this case the test books were ordered from Educational Testing Service (ETS) and the answer sheets from OpScan Corporation.

2. Schedule the time and place of the testing—in this case the tests were to be given during the precollege testing session scheduled from February through May (see Figure 3.7).

3. Determine who would be responsible for administering and collecting the test material—in this

Figure 3.6. Example of the placement and exemption credit scheme agreed upon by the committee

Placement and Exemption Credit Scheme for the Four Foreign Languages

		Years of High School Study									
		0		*1*		*2*		*3*		*4*	
Average Standard Score Range	*Course Placement*	*Course Exempted*	*Hours of Credit*	*Course Exempted*	*Hours of Credit*	*Course Exempted*	*Hours of Credit*	*Course Exempted*	*Hours of Credit*	*Course Exempted*	*Hours of Credit*
French											
200-439	101	None	0	None	0	None	0	None	0	None	0
440-489	102	101	4	None	0	None	0	None	0	None	0
490-529	103	101, 102	8	102	4	None	0	None	0	None	0
530-599	104	101, 102, 103	12	102, 103	8	103	4	None	0	None	0
600-800	Beyond 104	101, 102, 103, 104	16	102, 103, 104	12	103, 104	8	104	4	None	0
German											
200-409	101	None	0	None	0	None	0	None	0	None	0
410-499	102	101	4	None	0	None	0	None	0	None	0
500-539	103	101, 102	8	102	4	None	0	None	0	None	0
540-589	104	101, 102, 103	12	102, 103	8	103	4	None	0	None	0
590-800	Beyond 104	101, 102, 103, 104	16	102, 103, 104	12	103, 104	8	104	4	None	0
Russian											
200-389	101	None	0	None	0	None	0	None	0	None	0
390-449	102	101	4	None	0	None	0	None	0	None	0
450-499	103	101, 102	8	102	4	None	0	None	0	None	0
500-559	104	101, 102, 103	12	102, 103	8	103	4	None	0	None	0
560-800	Beyond 104	101, 102, 103, 104	16	102, 103, 104	12	103, 104	8	104	4	None	0
Spanish											
200-439	101	None	0	None	0	None	0	None	0	None	0
440-479	102	101	4	None	0	None	0	None	0	None	0
480-529	103	101, 102	8	102	4	None	0	None	0	None	0
530-559	104	101, 102, 103	12	102, 103	8	103	4	None	0	None	0
560-800	Beyond 104	101, 102, 103, 104	16	102, 103, 104	12	103, 104	8	104	4	None	0

Note: College Board scores are now reported with the third digit rounded.

Figure 3.7. Example of schedule of testing for entering freshmen at the UIUC

Tentative Schedule
Freshman Guidance Examinations 1972-1973

February	10	Urbana
	17	Urbana
	24	Urbana
March	3	Chicago
	10	Urbana
	17	Belleville, Rockford, Peoria
	31	Urbana, Springfield, Rockford, Peoria
April	7	Urbana
	14	Belleville, Springfield
May	5	Urbana
	12	Chicago
	19	Urbana
	26	Chicago

case it was the personnel of the Psychological and Counseling Testing Office, as they were responsible for the precollege testing program.

4. Organize the test processing—in this case the answer sheets were delivered to the MARD optical scanning staff who produced IBM cards with all test responses punched in.

5. Develop a test scoring and results presentation program—in this case a computer programmer from the UIUC's Administrative Data Processing office worked with the testing and measurement specialist to produce the program which resulted in the form presented in Figure 2.2.

6. See that exemption credit for each student was recorded in the permanent transcript—in this case all results forms with exemption credit were forwarded to the Office of Admissions and Records to be recorded.

7. See that the results forms were provided to the students, advisors, colleges, and departments—in this case duplicate copies of the forms were mailed to the students and sent to the colleges as soon as they were produced. In addition, results lists containing several students' data were provided according to the distribution list in Appendix B.

8. Provide the colleges, departments, and advisors with results interpretation information—see Appendix C for an example of the interpretation information provided.

STEP 7: Evaluation Plan

Although there were several proposals from the MARD staff as to how the effectiveness of the foreign language P/E activity could be evaluated, a limited amount of information was actually provided. One of the basic objectives of this P/E activity was to improve the attitudes of the students toward the required courses and the attitudes of the instructors toward the student composition of their courses. Judging from the responses from the committee members and selected faculty and students, it appeared that the attitudes of both students and instructors toward the program had improved quite postively.

Another objective was to reduce the proportion of students who typically altered their course placement because of mis-advising and lack of interest. The proportion of students who altered their course placement was significantly lower after the P/E program was implemented.

STEP 8: Periodic Review and Modification

The committee agreed with the recommendation from MARD that complete revalidation of the examinations and the system should take place at least every three years to take into account any changes in entering students' preparation, abilities, and interests. It was also decided that the decision scores would be reviewed each year and adjusted as needed.

4. Design and Validation of an Exemption Model: Advanced Standing on General Education Requirements

Introducing flexibility into an institution's educational program is a problem that can best be handled by the use of exemption and credit examinations. This chapter describes how one of the CPE exemption models—Model 11: Advanced Standing—can be used to resolve such a problem.

Exemption has been defined in CPE as excusing students from a degree requirement on the basis of demonstrated proficiency that may have been acquired under any auspices. In exemption, a student may or may not receive credit; he/she may even be required to take a course in place of the one exempted. So the variations in treatments rest largely on administrative considerations. Similarly, exemption strategies are evaluated in large measure on the basis of administrative and general educational considerations such as fairness, curriculum articulation, social equity, institutional commitments, economics, and so on.

One of the exemption models (Model 11: Advanced Standing) found in CPE will be described briefly and then a detailed substantive example will be presented in order to illustrate the use of the eight steps presented in Chapter 2.

Model 11: Advanced Standing

The CPE advanced standing model is concerned with moving able students substantially ahead on the basis of their general educational development rather than knowledge of specific coursework. The purpose is to create more flexibility in the overall structure of the educational program, that is, to allow well-prepared students to move rapidly into advanced work or to complete a degree in a shorter period. The UIUC's exemption program is an excellent example of the advanced standing model.

The UIUC provides three examinations which entering students can use to satisfy part or all of their general educational requirements. Here is how the eight steps presented in Chapter 2 were followed in implementing the general education exemption program at the UIUC.

STEP 1: Purpose of Exemption

The College of Liberal Arts and Sciences (LAS), as well as most other colleges at the UIUC, requires students to satisfy four general educational requirements during their first two years at the UIUC in the areas of Humanities, Social Sciences, Biological Sciences, and Physical Sciences. The students normally have to take six semester hours of credit in each one of those areas. The decision to establish an exemption examination program for the general educational requirement was based on three elements: feelings that there were many qualified students who were being subjected to an unnecessary requirement, increasing pressure to recognize nonclassroom-based learning, and a desire to allow competent students to graduate in less time than normally required.

The LAS Placement and Proficiency (P & P) Committee, made up of one representative from each of the four general educational areas as well as Classics and the college administration, was authorized to develop an exemption examination program which would be submitted for approval to the LAS Dean's Council and then the LAS college faculty. Since the MARD had been experimenting with the use of general examinations at least one year prior to the formation of the LAS P & P Committee, a representative of MARD was asked to help establish the exemption examination program.

STEP 2: Major Instructional Objectives

The committee specified the aggregate courses in the areas of Humanities, Social Sciences, Biological Sciences, and Physical Sciences as the objects of the exemption program. They further specified that the general competencies resulting from the various courses in the four areas would be appropriate criterion measures and could be assessed by examination. After considerable discussion, the committee agreed to use the aggregate grades students received

in the courses in each of these areas as the criterion measure in the experimental administration.

STEP 3: Test to Be Used

The committee agreed to use objectively scored examinations in each of the four areas. It was further decided to secure these examinations from a test publisher rather than develop them on campus.

The Checklist for Identifying and Selecting Published Instruments was employed in the following manner: Because of the wide publicity given the College Board's College Level Examination Program (CLEP)[1] and the fact that the CLEP General Examinations were being used rather extensively by other colleges in Illinois, the LAS P & P Committee asked the MARD representative to secure sample copies of the CLEP tests in Humanities, Social Science and History, and Natural Sciences for a careful inspection. Once these preview copies were secured they were distributed to the committee members for review. The committee then distributed them to selected faculty members who were responsible for the courses in each of the four areas, for review. After this review the committee decided to use the three examinations with the proviso that the two subtests of the Natural Sciences examination be used for the Biological Sciences and Physical Sciences areas.

STEP 4: Test Reliability and Validity

The MARD representative was asked to present a plan for experimentally administering the examinations. The experimental administration plan was as follows:

1. Since reliability coefficients of above .80 were reported by the test publishers on seemingly comparable student populations, no further reliability checks are to be considered.

2. Two types of validation will be conducted with the examinations. The first is a content validation by the committee and selected faculty members who are responsible for the courses in each of the four areas. (This validation was done in the preceding step when the sample copies were reviewed and the conclusion was that the examinations represented the general competencies required of the aggregate courses in each of the four areas.)

The second type of validation, best described as "concurrent validity," will be conducted at a later date.

3. In order to accomplish the second type of validation, a representative sample of first-year juniors who have completed their general educational requirements will be selected in each of the four areas and will be the subjects of the study.

4. The students' average grade in the aggregate courses in each area will be the criterion measure used. (See Figure 4.1.)

Figure 4.1. Sample table of the types of courses used to generate the average grade in each of the four general education areas

Humanities	*Social Sciences and History*	*Biological Science*	*Physical Science*
English	Psychology	Biology	Mathematics
History	History	Botany	Chemistry
Humanities	Sociology	Zoology	Geology
Language	Political Science	Physiology	LAS
Music	Anthropology	Microbiology	Astronomy
Art	Economics	Entomology	
Philosophy	LAS		

5. Each student will be sent a letter from the Dean of LAS explaining the study and requesting his/her participation on several scheduled days.

6. In order to stimulate cooperation and keep their motivation level high and consistent, the students will be informed that they will receive $4.00 for the one-and-one-half-hour examination.

7. MARD will provide the test administrators and proctors for the examination.

8. MARD will secure the test booklets and supply the answer sheets and pencils.

9. Test security, dissemination, and collection of all test materials will be the responsibility of MARD.

10. MARD will conduct all analysis of the test responses and prepare the results in a readable and interpretable form for presentation to the committee.

11. The analysis will consist of determining the degree of relationship between the CLEP test scores

1. For further information see CLEP *Fact Sheet and* CLEP *General and Subject Examinations*, College Board Publication Orders, Box 2815, Princeton, New Jersey 08541.

and the average grades in each of the four areas.

12. MARD will provide a recommended set of decision scores based upon the average grade versus CLEP test score comparison.

13. Campus normative data will be gathered by administering the three CLEP examinations to all entering freshmen during the College Diagnostic Testing Session in September.

STEP 5: Determining Decision Scores

The correlations between the average area grade and the CLEP test score, as called for in item 11 of the MARD plan, were found to be statistically significant in most instances and ranged in magnitude from .23 to .38 (Aleamoni and Kohen, 1977). Although the magnitudes of the correlations were not very high, the committee felt that they were high enough to use in determining decision scores.

After considering the correlations and the distributions of test scores in relation to the course grades, MARD recommended one decision score

Figure 4.2. Sample table showing how the College Board test score and grade data were distributed for the junior sample on the CLEP Social Sciences–History Examination

College Board Standard Score	*Average Area Grade*			
	D	*C*	*B*	*A*
79				1
78				
77				
76				
75				
74				
73			1	1
72				
71				
70				
69				
68			1	
67				
66				
65				1
64			2	
63				
62			1	
61				1
60			2	

Figure 4.2 *(continued)*

College Board Standard Score	*Average Area Grade*			
	D	*C*	*B*	*A*
59			1	1
58				
57		1		
56		1	1	1
55				
54			1	
53		1		1
52			1	
51		1		1
50		1	2	
49		2		1
48			2	
47				
46		1		1
45			2	
44		1	1	1
43				
42		1	1	1
41				
40	1	3	1	1
39				
38		1	1	
37				
36		1	1	
35				
34		1	1	2
33				
32	1	1	2	
31				
30		1		
29				
28			1	
27		1	1	
26				
25			1	
24		1		
23			1	
22		2		
21				
20				
19				
18				
17				
16				
15	1			

which corresponded to the point at which the average area grade of the junior sample was a C+ for each of the four areas. However, the committee decided that there should be two decision scores for each of the four areas—one at which the average area grade of the junior sample was an A, allowing the student to satisfy the entire general educational requirement in that area by receiving six hours of credit, and a second decision score to correspond to the point at which the average area grade of the junior sample was in the range of a C to a B + (an example of the type of data used is presented in Figure 4.2), allowing the student to have the entire general educational requirement waived, but to receive only three hours of credit; the other three hours would then be considered as elective credit.

The recommended set of decision scores based upon the considerations above and the scores of previously tested entering freshmen is presented in Figure 4.3.

After agreeing upon the decision scores presented in Figure 4.3, the committee submitted them to the LAS council, which approved them and submitted a proposal (see Appendix D) to the LAS faculty for final approval. The LAS faculty unanimously approved the proposed decision scores and the CLEP program.

Since the general educational requirements affected other colleges at the UIUC, the LAS-approved program was presented to the campus Assistant and Associate Deans Committee for consideration. After considerable deliberation, the A & A Deans Committee decided to adopt the LAS-approved program as a campus-wide program.

Because the earlier freshmen normative data did not adequately represent the LAS students, another testing was conducted on all entering freshmen during the College Diagnostic Testing Session, as called for in item 13 of the experimental administrative plan. The results of that testing indicated that the original normative data did indeed yield slightly lower scores. After a thorough analysis of all the test results, the committee decided that minor modifications needed to be made in the decision scores. The modified decision scores are presented in Figure 4.4.

STEP 6: Routine Administration

After the CLEP program had been approved as a campus-wide program, MARD was asked to establish the procedures needed to obtain and administer the examinations and to analyze and report the results of the testing. The procedures MARD established to accomplish these tasks are presented below.

A testing and measurement specialist was given the responsibility to do the following:

1. Order the test booklets and answer sheets—in

Figure 4.3. Sample table presenting the decision scores for exemption and credit in the four general educational areas

Exam	*Form* NCT1 *Raw Score*	*Form* NCT2 *Raw Score*	*College Board Standard Score*	*Approximate College Board National Percentile*	UIUC *Freshmen Percentile*
Social Sciences and History:					
6 Hours Credit	51	53	605	84	87
3 Hours Credit	41	44	550	70	68
Humanities:					
6 Hours Credit	49	44	592	82	87
3 Hours Credit	39	35	537	66	66
Biological Science:					
6 Hours Credit	35	38	63	90	83
3 Hours Credit	28	31	56	73	56
Physical Science:					
6 Hours Credit	33	32	62	86	77
3 Hours Credit	28	27	57	73	61

Figure 4.4. Sample table presenting the revised decision scores

Exam	*Form* NCT1 *Raw Score*	*Form* NCT2 *Raw Score*	*College Board Standard Score*	*Approximate College Board National Percentile*	UIUC *Freshmen Percentile*
Social Sciences and History:					
6 Hours Credit	54	56	620	87	90
3 Hours Credit	42	44	555	72	70
Humanities:					
6 Hours Credit	51	45	602	85	90
3 Hours Credit	41	37	548	69	70
Biological Science:					
6 Hours Credit	38	41	66	95	91
3 Hours Credit	32	35	60	84	72
Physical Science:					
6 Hours Credit	39	38	68	95	90
3 Hours Credit	31	30	60	82	71

this case, the test books were ordered from ETS on a yearly basis with a different form of the test ordered each year. The answer sheets were ordered from OpScan Corporation.

2. Schedule the time and place of the testing—in this case the tests were originally given around mid-semester in the fall and spring and during New Student Week in August. Later they were given during the precollege testing sessions scheduled from February through May. Individual testing at other times was possible in the Psychological and Counseling Testing Office.

3. Determine who will be responsible for administering and collecting the test material—in this case it was the personnel of MARD under the original testing conditions. When the examinations were administered during the precollege testing sessions the personnel of the Psychological and Counseling Testing Office were responsible.

4. Organize the test processing—in this case the answer sheets were delivered to the MARD optical scanning staff who produced IBM cards with all test responses punched in.

5. Develop a test scoring and results presentation program—in this case originally a MARD programmer produced a simple program that resulted in the form presented in Figure 4.5. Later the UIUC's P & P program was modified to accommodate the CLEP results as exemplified in Figure C.1 of Appendix C.

6. See that the exemption credit for each student was recorded in the permanent transcript—in this case all results forms with exemption credit were first sent to the student's college for verification and then to the Office of Admissions and Records to be recorded. Figure 4.6 presents the procedures used at the UIUC.

7. See that the results forms were provided to the students, advisors, colleges, and departments—in this case duplicate copies of the forms were mailed to the students and sent to the colleges as soon as they were produced. In addition, results lists containing several students' data were provided according to the distribution list found in Appendix B.

8. Provide the colleges, departments, and advisors

Figure 4.5. Sample of the initial form used to present the CLEP test results

CLEP GENERAL EXAM PROFICIENCY CREDIT

EXAM: Social Sci. & Hist.	FORM: NCT 1	DATE: 11/15/73
SOCIAL SECURITY NO.	NAME	COLLEGE
528-46-2403	Aleamoni L.	Liberal Arts
STANDARD SCORE	CREDIT HOURS	
670	6	

Figure 4.6. Example of procedures for distributing and recording exemption credit at UIUC

Procedures For The Distribution And Posting Of College Level Examination Program (CLEP) Test Results

A meeting was held at 3:00 p.m. on March 7 in 108 Administration Building to establish a procedure for the handling of College Level Examination Program (CLEP) test results on the Urbana-Champaign campus. In attendance were Larry Aleamoni, Head of the Measurement and Research Division of the Office of Instructional Resources (OIR), Associate Deans of Liberal Arts and Sciences Applebee and Bloomer, Director Loeb and Associate Directors Payne and Engelgau, Office of Admissions and Records (OAR). CLEP results are received by OIR, LAS students are the main participants, and OAR records accepted credit.

CLEP is the third method introduced to campus for the receipt of credit through established tests. Others are the Advanced Placement Program of the CEEB (APP) and the campus Placement and Proficiency Program (P&P). It was agreed procedures to handle the three types should be parallel. With this guideline, the following general procedure is outlined. Specifics are yet to be developed, particularly within OIR:

A. CLEP results are initiated or received by the Measurement and Research Division of OIR as the campus test center. Individual test results from other testing centers should be directed to:

Measurement and Research Division (OIR)
307 Engineering Hall
Urbana, Illinois 61801

OIR, through tape matches, will identify the test participant as an applicant for admission (new student), enrolled student, or neither.

B. Test results of applicants for admission (new students), due either to testing on this campus or the results sent from other test centers, will be coordinated with the current handling of the campus Placement and Proficiency tests.
   1. Results will be listed on individual reports
   2. Both P&P and CLEP results will be sent through OAR and the established procedures of the Pre-College Program to the Colleges in time for summer advance enrollment.
      a. CLEP tests taken in advance will accompany P&P results to the college at least two days in advance of the new student's summer advance enrollment appointment.
      b. CLEP results taken the day before the new student's advance enrollment appointment will be sent directly to the college from OIR just like the aural portion of the foreign language results are presently.

3. Colleges will be responsible to report back to OIR any duplications in credit between CLEP and P&P and, for transfer students, transfer coursework credit. If credit usually granted is not granted due to duplications, the college should so notify OIR. Procedures for this reporting will be clarified by Dr. Aleamoni's office.

4. OIR will send to OAR, after registration, a clean tape report (no duplicate credit) on all P&P and CLEP initiated credit. OAR will check this credit against credit gained through the Advanced Placement Program. Any duplication of credit will be checked with the college and posted following the college's directions. Other credits will be posted following current procedures. It was felt that perhaps the Advanced Placement Program test results should also be received by OIR. This will be pursued at a later date.

5. If test results are received between the new student's advance enrollment and registration or are initiated during New Student Week, they will be reported directly from OIR to the appropriate college and follow the guidelines above for posting on the student's ledger.

C. Test results from other testing centers or from the University of Illinois as a national testing center received for students currently enrolled will be forwarded, with credit earned noted, from OIR directly to the appropriate college. For posting on the student's ledger, the college will send a 4 x 6 Notice of Advanced Standing to: Records, 69 Administration Building, Office of Admissions and Records, following current procedure.

D. If the student cannot be identified, the score will be kept by OIR for rechecking at a later date.

E. OAR records will update the test credit tape generally described under 4 above with Advance Placement Program credit or with test credit which arrives after the tape. This augmented tape will then be loaded to the STM, upon joint request from OAR, OIR, and ADP.

PREPARED BY: Gary R. Engelgau
Associate Director for Admissions

DATE: April 2, 1973

with results interpretation information—see Appendix C for an example of the interpretation information provided.

STEP 7: Evaluation Plan

The MARD staff agreed to gather data on what courses the students actually took and what grades they received. This information would then be used to determine the patterns of courses taken and grades received by students receiving (a) no credit, (b) waiver, (c) waiver and three hours credit, and (d) waiver and six hours credit. The results of this follow-up would be used to determine if students actually undertook more advanced courses and/or completed their degrees in a shorter time period. Modifications of the program would depend upon the results of the follow-up study.

In addition a complete analysis of the cost of the program to the University and participating students should take place each year to determine if any policy changes are needed.

STEP 8: Periodic Review and Modification

The committee agreed to authorize a complete revalidation of the examinations and the system at least every three years to take into account any changes in the entering students' preparation, abilities, and interests. It was also decided that the decision scores would be reviewed each year and adjusted as needed.

5. *Design and Validation of a Placement Model: Remediation in Language Skills*

By Joseph W. Dougherty, Wesley College

Two of the most urgent concerns of any institution attempting to develop an effective program of student assessment and placement are first, a comprehensive program of special academic services to facilitate the individualizing of student academic programs, and second, a comprehensive testing program. This chapter presents the model which Wesley College developed to meet these concerns, and illustrates how the eight steps discussed earlier were followed in implementing this program. The chapter describes Wesley's Learning Resources Program and explains the development and implementation of its student assessment battery, the Wesley College Student Learning Profile.

STEP 1: Purpose of the Learning Resources Program

In 1972, Wesley College, along with small liberal arts colleges across the country, was confronted with the problem of increasing numbers of vocationally oriented students who lacked the basic academic skills to achieve their educational goals. This problem was further compounded by the enrollment of larger numbers of older, nontraditional students. Consequently, the college experienced a far wider range of academic and personal strengths and weaknesses in its incoming freshmen than at any time in its history. In order to serve the widely diverse educational needs of these students, the Learning Resources Program (LRP) was developed. The LRP is a complex of six educational services designed to meet the individual academic and personal needs of each incoming student. The six services are listed below.

1. The Academic Skills Program
2. Learning Center Counseling Services

3. ASK—The Academic Skills Counseling and Tutorial Service
4. COPE—The Center for Occupational and Personal Experiences
5. The College Advanced Placement Program
6. The Administration and Interpretation of the Wesley College Student Learning Profile

Learning Profile

The sixth and last responsibility of the LRP is, in fact, the most important and the one which makes all the others possible. It is part of this activity that will be described here. Because of the increasing academic diversity of incoming students, the college was attempting a greater individualization of each student's academic program through the LRP, but this individualization was impossible without some form of student assessment which would provide early identification of the academic and personal strengths and weaknesses of incoming students. Therefore, the college sought to develop a testing program which would accomplish the following objectives:

1. Provide a comprehensive assessment of the verbal, mathematical, scientific, and study skills of all incoming Wesley College students. Only the use of the verbal skills assessment is described here.
2. Serve as a reliable predictor for successful advanced placement for students exhibiting academic strengths.
3. Provide specific diagnostic information on the academic weaknesses of students.
4. Provide specific information regarding the basic skills of each student which could be shared with the student's faculty so that each instructor could effectively individualize each course.

STEP 2: Major Institutional Objectives

This proposed battery of tests would be administered to all incoming Wesley students to determine their readiness to pursue entry level courses in English.

For example, every first semester freshman was required to take the English Composition course, and the next course in sequence was the Introduction to Literature course. The English Department had established both specific prerequisites for English Composition as well as a series of competencies expected of those completing the course. In reviewing the available standardized test and essay formats, every attempt was made to match the Instructional Objectives of each course sequence with the contents of each assessment instrument. After experimentation with several alternative instruments we selected those which best correlated with the final grades in each course sequence. We then formed the test battery for the Verbal Profile, the Mathematics Profile and the Science Profile. Each profile could then be used for the following three purposes:

1. To identify those students whose skill deficiencies would require remedial or developmental courses.
2. To place students more accurately within the course sequence.
3. To identify those students who qualified for exemption and/or advanced placement.

STEP 3: Tests to Be Used

We had two criteria for tests in each area:

(1) They should be instruments which were not solely placement instruments but which could provide specific diagnostic information as well, and

(2) all such information should be in a form that could be readily shared with each student's instructors and faculty advisor.

With these criteria and our original objectives in mind, the college solicited the help of J. Evans Alloway, Director of Test Development at the Educational Testing Service in Princeton, New Jersey. With Dr. Alloway's invaluable assistance and after three years of research and development, the college formulated the Wesley College Student Learning Profile, a placement and diagnostic instrument which would enable the college to:

1. Collect data about the student's affective and cognitive skills.
2. Develop a realistic assessment of the student's academic and personal strengths and weaknesses through interpretation and diagnosis of these data.
3. Establish and implement an effective program of placement and exemption to meet the individual student's needs.

To facilitate the collection of test data, the college required all incoming students (usually between 400 and 450) to participate in one of two, two-day New

Student Orientation Programs held in late May and mid-June. In addition to testing incoming students this program provided an opportunity to orient students effectively to all the various programs and services offered by the college. At the completion of these programs, all tests were scored, results recorded, transcript information collected, and the Student Learning Profile for each student compiled by late July.

The Wesley College Student Learning Profile consists of the following components:

1. *Verbal Skills Profile.* Reading, Writing, Spelling, Punctuation, Grammar, Vocabulary, Diction, Usage, etc.

2. *Math-Science Profile.* Arithmetic Computation, Elementary Algebra, Basic Mathematics Concepts, Intermediate Algebra, and Basic Science Skills.

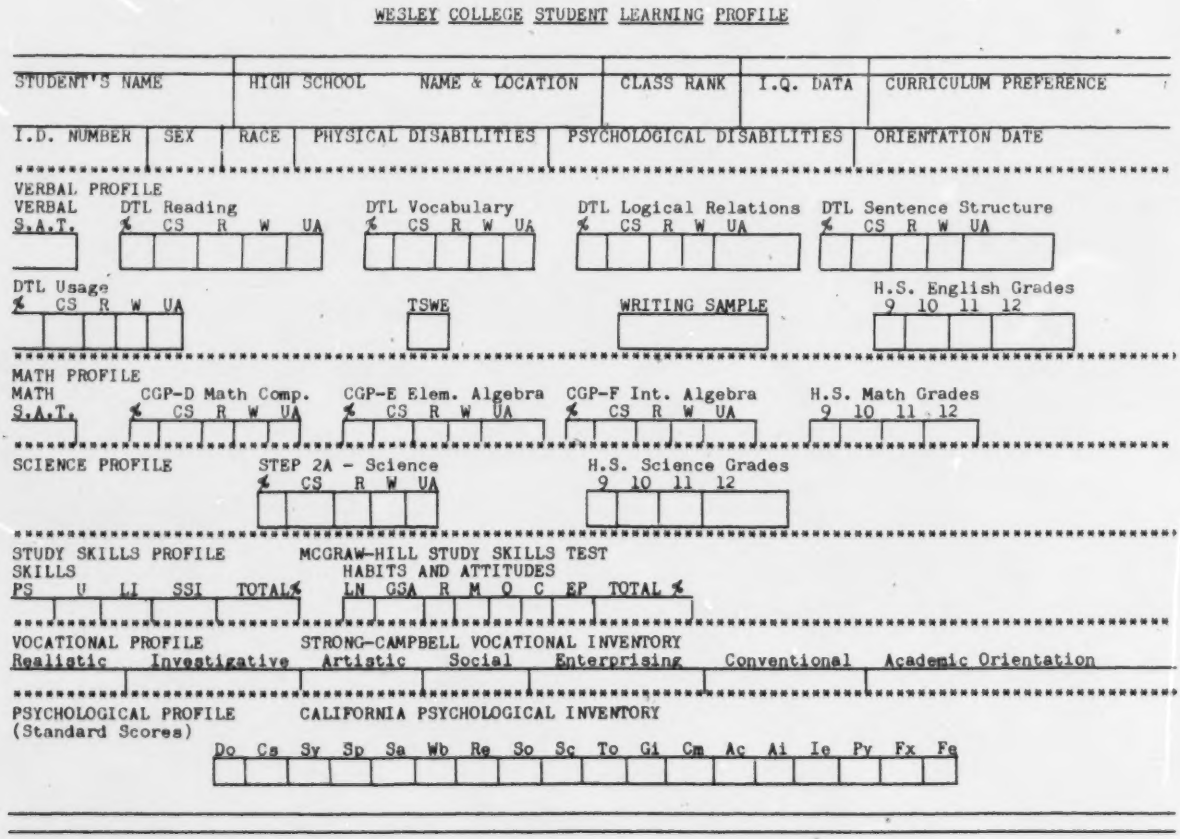
3. *Study Skills Profile.* Problem Solving, Underlining, Library Information, Study Skills Techniques, General Study Habits and Attitudes.

4. *Personality Profile.* Subscores from the Strong Campbell Vocational Interest Inventory, California Psychological Inventory, and, in some cases, the Minnesota Multiphasic Personality Inventory.

The present form of the Wesley College Student Learning Profile is reproduced in Figure 5.1.

The entire profile is used as a single diagnostic instrument, but the following pages describe and explain only the Verbal Skills Profile as a model of verbal skills assessment.

Figure 5.1. The Wesley College Student Learning Profile



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The Verbal Skills Profile

An institution which is committed not merely to a program of effective placement and exemption but also to a viable remedial/developmental program must know the type and extent of a student's verbal deficiencies. In order to assess each incoming student's range of verbal skills, we developed a battery of verbal tests which, together with information from the student transcript, enabled the college to assign the student to the appropriate courses and arrange for the appropriate remedial work. The Verbal Skills Profile utilizes seven different measures (see Figure 5.1), described below.

Measure 1: College Board Scholastic Aptitude Test, Verbal Score. The verbal section of the College Board Scholastic Aptitude Test is a multiple-choice test which measures reading comprehension, verbal reasoning and vocabulary. The student's score is reported on a standard score scale of 200 to 800. In 1976, the National Mean for the SAT Verbal Score was 434. The average SAT Verbal score for entering Wesley College freshmen in 1976 was 418.

Measure 2: The Sequential Test of Educational Progress Test of English Expression, Form 1A. The English Expression Test measures the ability to evaluate the correctness and effectiveness of sentences. The test is composed of two parts. In the first part, the student is asked to solve such problems as agreement between subject and verb or pronoun and referrent, and the selection of an adjective or adverb. The second part of the test consists of problems in sentence structure, word order, idiomatic expression, and diction. In 1976, the National Mean for the STEP Test of English Expression, Form 1A was the 47 percentile (34 of the 65 test items answered correctly). The Wesley College mean was the 37 percentile (30 of the 65 test items answered correctly).

Measure 3: The Sequential Test of Educational Progress Test of Reading, Form 1A. The Reading Test measures the student's ability to read and understand a variety of materials. The reading passages utilized in the test include stories and poems as well as selections from the literature of the sciences, social studies, and humanities. The three specific reading skills measured by the test are comprehension, translation and inference, and analysis. STEP defines comprehension as the ability to understand written material which implies a knowledge of sentence structure and word relationships and involves a recollection of sequences of ideas and facts. The skill of translation and inference is defined as the ability to identify ideas when they are stated in language different from the original presentation; to deduce the meaning of figurative or obscure words, phrases, or sentences; to apply ideas to new situations; and to recognize specific inferences. Finally, analysis measures the student's ability to recognize and appraise, first, literary devices, tone, and logical structure, and second, the author's purpose and the attitudes and beliefs which influenced what he wrote. The National Mean for the STEP 1A Reading Test was the 43 percentile (33 of the 60 items answered correctly). The Wesley College average was the 29 percentile (28 of the 60 test items answered correctly).

Measure 4: The College Board Test of Standard Written English. Through an arrangement with the College Board and Educational Testing Service, Wesley College administered the Test of Standard Written English (TSWE) to every incoming student regardless of whether he or she had previously taken the test at an SAT administration. Furthermore, it was *only* the score from the Wesley College test administration which was recorded on the Verbal Skills Profile. The TSWE is a thirty-minute test containing 50 multiple-choice items about the kinds of conventional and formal English that students are usually expected to use in college papers. Scores are reported on a range of 20 to 60. The TSWE was not designed for use in admissions decisions, but is intended to assist with the placement of students in the appropriate instructional sequences. It is a rather easy test and discriminates best among students of relatively low writing ability. The mean score for incoming Wesley College students on the TSWE was 40 in 1976.

Measure 5: The Sequential Test of Educational Progress Mechanics of Writing Test, Form 2A. The STEP Mechanics of Writing Test measures the student's skills in spelling, capitalization, and punctuation by asking the student to identify misspelled words and to detect errors in capitalization and punctuation in the context of given sentences. The National Mean for this test was the 43 percentile while the Wesley College average was the 37 percentile.

Measure 6: The Wesley College Writing Sample. In developing the battery of tests for the Verbal

Skills Profile, the college felt it essential to include an actual writing exercise. Once again, the college requested the assistance of Evans Alloway, of ETS, in the formulation of a writing sample. After much discussion, a writing sample was developed which consisted of two distinctly different writing tasks. The first of these was a business letter in which the student expressed his concerns about a highly defined issue. The objective of this writing task was to assess the student's written expression in a relevant, well-defined context. The objective of the second task, which presented the student with a much more hypothetical issue, was to determine the student's competency in responding to an intellectual issue in a more traditional and formal essay. The Wesley College Writing Sample Test is presented in Figure 5.2. These essays were then read by two members of the Wesley College English Department and holistically scored. The systems of holistic scoring employed called for each reader to score each part of the Writing Sample on a scale of 1 to 6. Thus, the possible range of scores on the Wesley College Writing Sample was 4 to 24. The average Wesley College student score was 14.

Measure 7: High School English Grades. The final component in the Verbal Skills Profile was a record of the student's ninth, tenth, eleventh, and twelfth grade English grades. In addition to recording the arithmetical or letter grade, a notation regarding course content was also made in those cases where that information was available. This notation was usually in the form of an exponent abbreviation (85w, for example, meant an 85 in a writing course).

STEP 4: Test Reliability and Validity

As we secured the individual instruments over the three-year period, each test was given to groups of freshman English students, scored, and the results compared to the actual performance of those students in the English course. This initial experimental administration served to document both the reliability and validity of our instruments. However, as a further check of both reliability and validity, and before instituting the mandatory entry testing policy, the college conducted an experimental administration of all the tests on the new Student Learning Profile over two three-day periods in June 1974, when the 380 incoming students were administered the complete battery of tests. The tests were either scored by members of the college faculty or were sent away for machine scoring. Two members of the college's English Department holistically scored the Writing Sample. While the scoring was in process, three members of the college's administrative staff worked on collecting all transcript information and recording it on the profile. After this was accomplished, all test scores were recorded on the profile (in the format illustrated in Figure 5.1). This done, the completed profiles were given to the Director of the Learning Resources Program (who had been responsible for the development and implementation of the test battery) for interpretation and diagnosis.

STEP 5: Determining Decision Scores

In determining the decision scores to be utilized in the placement of students, the director had at his disposal the data collected from the previous experimental administrations in each department. Basing his decision scores on the correlations established in those earlier administrations, he proceeded to analyze each student's learning profile.

Interpretation and Diagnosis of the Verbal Skills Profile

In explaining our procedures for interpreting the Verbal Skills Profile, it should be stressed that each measure complemented the others and no single measure was used independently of any others. However, general norms were established for each measure and, as a rule, these individual test norms correlated very predictably with each other. The specific norms utilized in our interpretation and diagnosis of the Verbal Skills Profile follow.

Measure 1: The College Board Scholastic Aptitude Test, Verbal Score. In order to develop initial norms for placement of students into the Developmental Writing Program, Wesley College analyzed the relationship between the Verbal SAT score of incoming freshmen and their final English grades. This analysis was conducted in the spring of 1976, utilizing the scores of incoming freshmen in 1974 and 1975.

Our analysis showed that 89 percent of all incoming freshmen with a Verbal SAT score above 350 received a final English Composition grade of C or above. Likewise, it was found that 83 percent of all

Figure 5.2. The Wesley College Writing Sample

Directions: This test consists of two writing exercises each of which requires a different composition process. Pay particular attention to the situation presented and the kind of writing required for it.
You must stay within the time limit for each exercise so that you do not work too long on one part at the expense of the other. Times will be announced periodically throughout the examination.
Label each writing exercise Part A or Part B. Be careful to write your essays on every other line of the examination books.
Write your name on the front of each book.

Part A - Time: 30 minutes
As part of your preparations for going away to college, you have recently purchased an expensive, quadrasonic stereo system (the system includes a turntable, a cassette tape-player, severalamplifiers, four portable speakers, and a set of head phones). Although you had some misgivings about its expense, you had no doubts whatsoever about its quality. However, after it is delivered to you, you find that your stereo system has major defects. You attempt on numerous occasions to have the problems corrected. Despite your repeated efforts, you have been unable to get the store which sold it to you either to repair the system or replace it. Write two brief letters (three or four paragraphs each) concerning your defective stereo system:

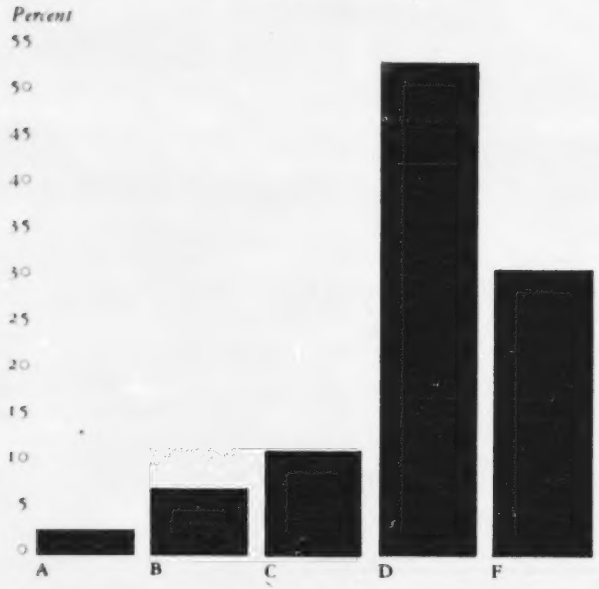
1 Write the first letter to the salesman who sold you your stereo. State your complaint(s) and suggest what action should be taken.
2 Write the second letter to your local Chamber of Commerce or Better Business Bureau, reporting your failure to get full satisfaction from the store or dealer which sold you the stereo system.

In each letter be sure that your style and tone are suitable to your audience, that your complaints are specific, and that your expressed indignation is appropriate to the circumstances you describe.

Part B - Time: 30 minutes
Some officials have recently proposed a system of national service for a period of two or three years for every young man and woman, beginning at age eighteen. Some young people could serve in the armed forces, others could do conservation work in the national parks and forests, others could serve in the Peace Corps, still others could be employed in various kinds of social or educational work.

Discuss whether or not you think such a plan would be desirable and give reasons for your view.

Figure 5.3. Final English grades of incoming freshmen with a Verbal SAT score of 350 or below



students scoring 350 or below received a final English grade of D or F. The specific grade distribution of these two groups is presented in Figures 5.3 and 5.4. Accordingly unless there were other prevailing data or, as in the case of the older, nontraditional

Figure 5.4. Final English grades of incoming freshmen with a Verbal SAT score above 350

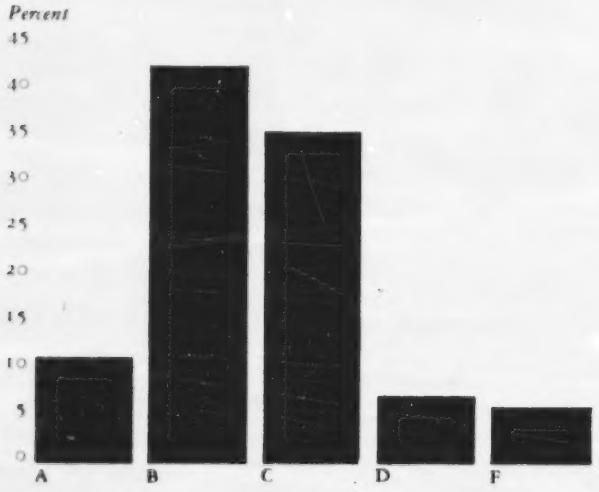
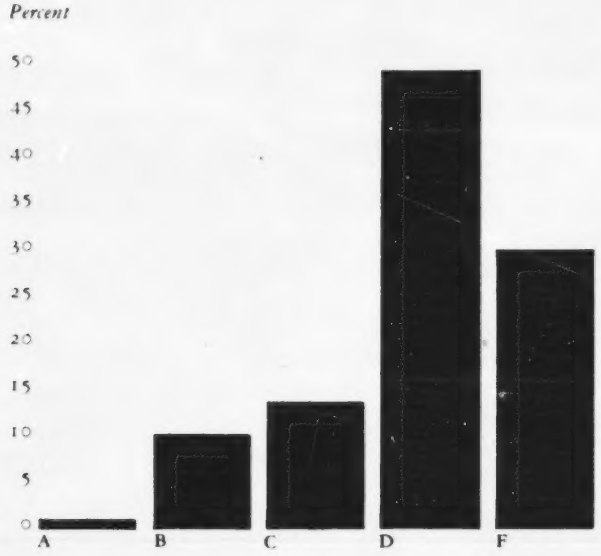


Figure 5.5. Final English grades of incoming freshmen with STEP 1A English Expression Scores in the 25th percentile or below



student, indicators of significant development in verbal skills since the SAT was taken, all students with a score of 350 or below were recommended to an appropriate section of the Developmental Writing Program. The Verbal SAT score was employed only as a secondary, not a primary, predictor of successful advanced placement.

Measure 2: The Sequential Test of Educational Progress Test of English Expression, Form 1A. In attempting to determine appropriate norms for the STEP English Expression Test, we once again had the advantage of data collected with sample populations of freshmen during the previous two academic years. Once again, we analyzed the relationship between entry scores on the English Expression Test and final English Composition grades. The results of this analysis indicated that 88 percent of all incoming freshmen who scored above the 25th percentile (raw score of 27 correct answers in the 65-item test) received a final grade of C or above, and 79 percent of those who scored at the 25th percentile or below received a final grade of D or F. Consequently, it was decided to use the 25th percentile as the appropriate decision score for placement into Developmental Writing, The results of our analysis of the

English Expression Test and final English grades are presented in Figures 5.5 and 5.6.

This test was extremely valuable in assessing the specific verbal weaknesses of those students who were placed in the Developmental Writing Program. Moreover, because these data (not only the overall test results but the specific item analysis for each student) were available two months prior to the start of the fall semester, we were able to more effectively assign students to particular sections of Developmental Writing as well as to provide the instructors the opportunity to select materials and develop course syllabi specifically directed at certain verbal deficiencies (i.e., sentence structure, vocabulary development, diction and word choice, etc.).

However, as with SAT, the STEP test of English Expression was not a primary indicator of successful advanced placement.

Measure 3: The Sequential Test of Educational Progress Test Of Reading Form 1A. We had no previous experience in developing norms for interpreting the Reading Test, as we did with the SAT Verbal and the English Expression Test. Moreover, because of the high number of very low reading scores and the limited staff in the Developmental Reading Program, we had to use a lower cutoff norm than desired. On the basis of the little data we had relating STEP Reading scores to freshmen students' first-semester Grade Point Averages (see Figure 5.7), we decided that the most practical figure would be the 23rd percentile (26 correct answers of the 60 test items). Accordingly, every student scoring lower than 461 (converted score) was assigned to the Developmental Reading Program. While there is no doubt that all these students required the Reading Program, there are indicators that students who might have benefited from the program were excluded. Preliminary analysis of this group suggests that the present percentile cutoff be raised to the 34th percentile.

Figure 5.6. Final English grades of incoming freshmen with STEP 1A English Expression scores above the 25th percentile

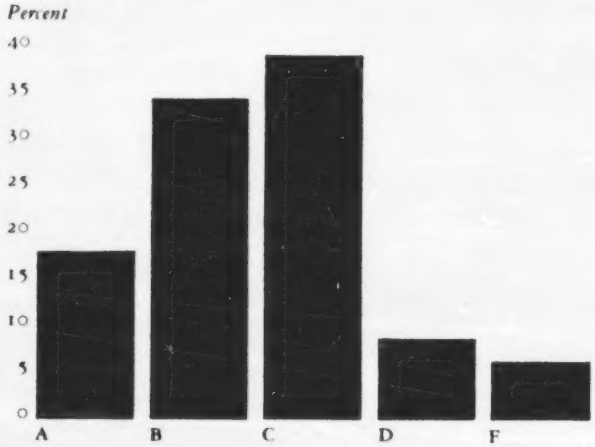
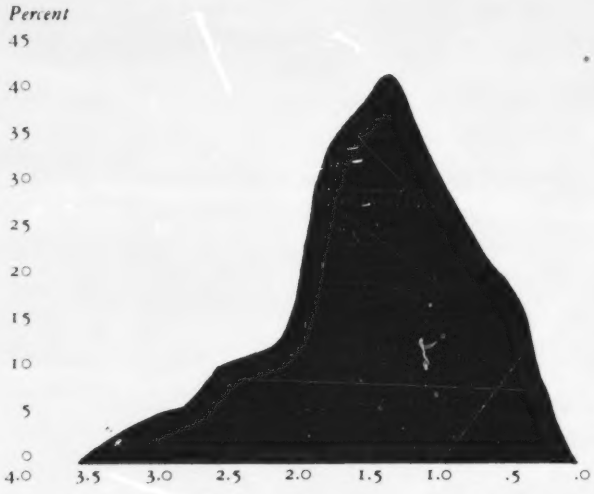


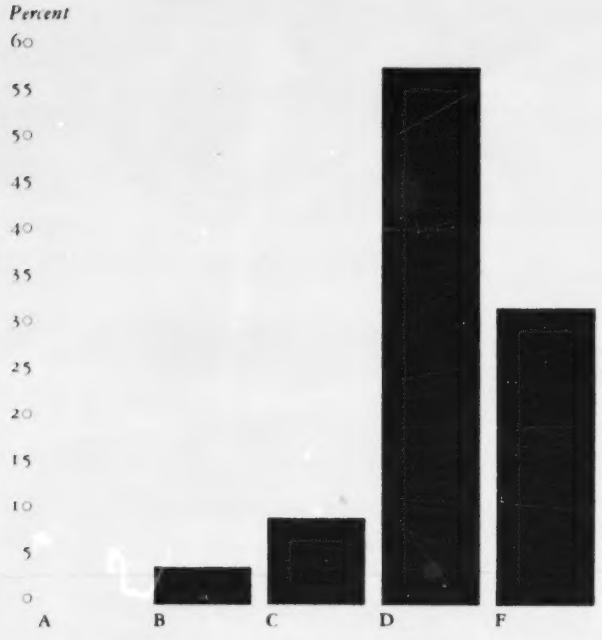
Figure 5.7. Distribution of first semester grade point averages of incoming freshmen with scores at the 23rd percentile or below on the STEP 1A Reading Test



In general, the Reading Test was not used to predict successful advanced placement of students.

Measure 4: The College Board Test of Standard Written English. In establishing placement norms for the TSWE, we had the benefit of two years' experience utilizing these scores. A score of 32 was established as an indicator for assignment to the Developmental Writing Program. The basis for this cutoff score was our analysis of the relationship of students' TSWE scores to incoming freshmen students' grades. The results of this study showed that 91 percent of all students who scored 32 or below on the TSWE received a D or an F in English Composition (see Figure 5.8). However, experience proved that de-

Figure 5.8. Final English grades of incoming freshmen with TSWE scores of 32 or below



pending on such other important variables as reading ability, general study skills, and mechanics of writing competency, students with scores ranging as high as 39 had difficulty in completing the English Composition course. Figure 5.9 depicts the grade distribution of those students scoring between 33 and 39 on the TSWE. An analysis of those students scoring 40 or above on the TSWE documented that 95 percent of all students in this group received a final grade of C or better in English Composition (Figure 5.10). The TSWE, then, was a most effective indicator of verbal deficiencies when used as part of the total Verbal Profile.

The TSWE has also become our primary predictive measure for successful Advanced Placement in English Composition. The English Department at Wesley College offers advanced placement in English Composition to any student who scores 500 or above on the English test of the CLEP General Examination and scores 18 or above on the holistically scored writing sample. During the three years in which the TSWE has been a part of the Verbal Skills Profile, we have used a score of 56 on the TSWE to predict successful CLEP performance. During this time, 52 of the 59 students who scored 56 or above on the TSWE scored 500 or above on the CLEP General English Examination.

Measure 5: The Sequential Test of Educational Progress Mechanics of Writing Test, Form 2A. In analyzing student scores in the Mechanics of Writing Test, we

Figure 5.9. Final English grades of incoming freshmen with TSWE scores between 33 and 39

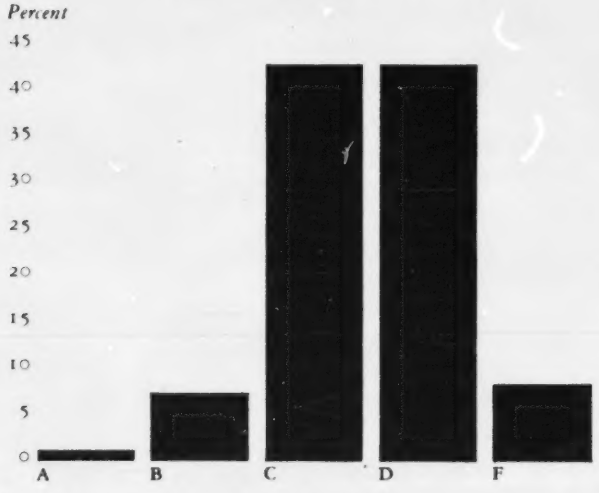


Figure 5.10. Final English grades of incoming freshmen with TSWE scores of 40 or above

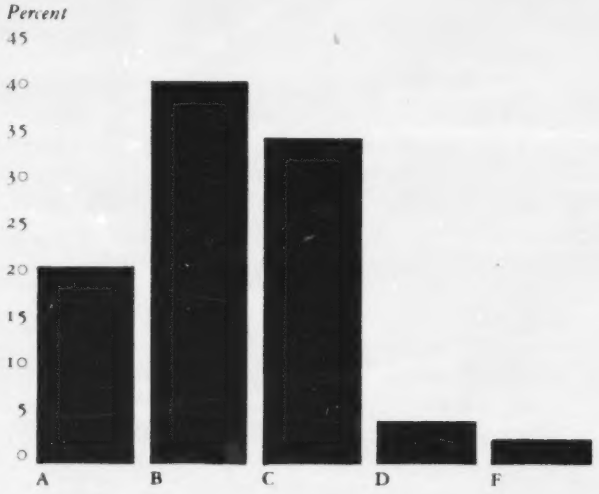
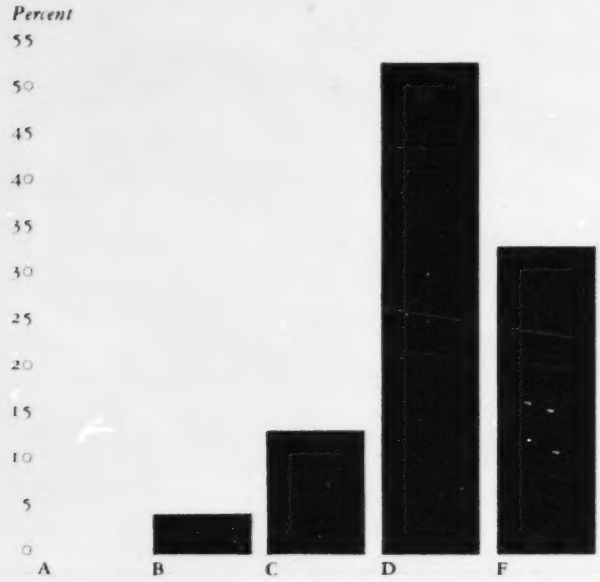


Figure 5.11. Final English grades of incoming freshmen with Wesley College Writing Sample scores of 11 or below



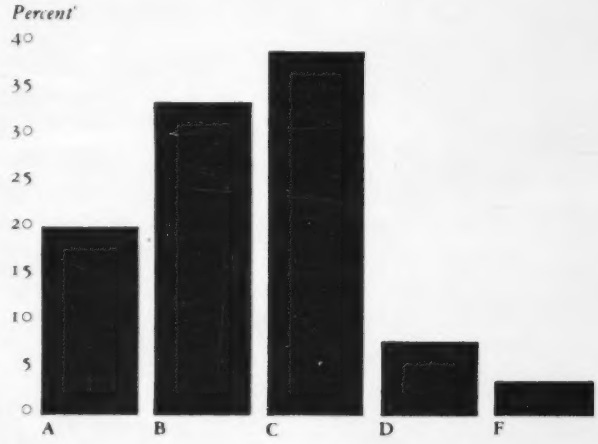
were receiving information found nowhere else in the Verbal Skills Profile, except in the Writing Sample. The information provided by the test was especially significant in that it frequently accounted for what seemed to be discrepancies between the scores of two or more of the other measures. Like the other STEP tests, this one was particularly useful in diagnosing specific writing problems and in providing instructors with insights into material selection and course content. Any student with a converted score of 459 or 25th percentile was diagnosed as requiring either Developmental Writing or Mechanics of Expression. An individual item analysis together with the individual student's scores on the other measures determined which of the two courses would be recommended for the student.

Because of the nature of the test, it was found to be of very little assistance in predicting successful advanced placement.

Measure 6: The Wesley College Writing Sample. The Writing Sample developed for use with the Verbal Skills Profile has proved to be very useful in profiling both the strengths and weaknesses of our students' written expression. There has been such concurrence about its value within the English Department that the department has specified a holistic score of 18 as a prerequisite for taking the CLEP examination for advanced placement. A score of 11 or below has been established as an indicator of assignment to the Developmental Writing Program. This score was based on an analysis of the Writing Sample scores of incoming freshmen in 1974 and 1975 in relation to their final English grades. It was found that of the students with Writing Sample scores of 11 or below 85 percent received a final grade of D or F, while of the students with scores of 12 or above, 92 percent had final English grades of C or above. Figures 5.11 and 5.12 depict the actual grade distributions of these two groups of students. However, depending on other variables within the profile, students with scores as high as 13 have been assigned to the program.

Measure 7: High School English Grades. Over the past four years, high school English grades have become less valid as predictors for either developmental or advanced placement. In fact, it was the growing concern about their validity which was in part responsible for the development of the Verbal Skills Profile. However, they provide us with the only indication of the student's actual performance in verbal skills courses.

Figure 5.12. Final English grades of incoming freshmen with Wesley College Writing Sample scores of 12 or above



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STEP 6: Routine Administration

Arranging for routine administration was a comparatively easy step in the development of the Wesley College model. Both the faculty and the academic dean were committed to developing as much information as possible on the academic strengths and weaknesses of each incoming student. Moreover, the dean of students and the college counseling office as well as the president were eager to establish a mandatory on-campus orientation program for all new students. It seemed that both objectives could be met by conducting a series of required two- or three-day New Student Orientation Programs during the month of June. This would also provide sufficient time for the scoring of all tests, the completing of all students' Learning Profiles, the analysis and interpretation of each Profile, and the transmittal of information to all instructors and advisors. Such a proposal was made and approved and the policy of mandatory New Student Orientation prior to enrollment and registration became part of the Wesley College Bulletin and all applicants to the college were so informed.

STEP 7: Evaluation Plan

To maintain the Student Learning Profile as an effective placement and exemption instrument, the Learning Resources Program staff developed procedures for both internal and external evaluations. The internal evaluation consisted of an analysis of the academic performance of four student groups, defined in the following way:

Group 1 – Students whose learning profiles indicated weaknesses in basic academic skills and who were assigned and did complete Academic Skills Program courses.

Group 2 – Students whose learning profiles indicated neither a need for developmental work nor the potential for advanced placement. They were enrolled in the entry level freshman courses.

Group 3 – Students who were identified as candidates for successful advanced placement in one or more courses.

Group 4 – Students who, although identified as requiring the remedial or developmental courses of the Academic Skills Program, did not for one reason or another take these courses.

In 1976-77, 171 students of the entering class of 427 were identified as requiring at least some remedial or developmental course work. Of this number, five students failed to report to the college in the fall and four withdrew at some point during the semester. This left 162 students who completed the Academic Skills Program (Group 1). Of this number, three students were declared academically ineligible to return at the end of the first semester, and twelve at the end of the second semester. This left 147 students academically eligible to return for the sophomore year. These figures become especially significant when compared to those for Group 4. This group consisted of 37 students who were identified as also requiring remedial or developmental instruction in one or more areas but who, for one reason or another, were unable or unwilling to enroll in the Academic Skills Program. In this group, 22 students were academically ineligible to return after the first semester and 9 more were academically ineligible to return after the second semester, leaving 6 students in Group 4 eligible to return for the sophomore year.

In analyzing the performance of the students in Group 2, the following things were observed: (1) A significant decrease in the number of failing course grades given to freshmen; (2) a slight rise in the average freshman grade point average; and (3) a reduction in first and second semester freshman attrition.

In Group 3 we found that 82 percent of all students recommended for advanced placement successfully achieved it. Moreover, 78 percent of all those who entered the next course level in the sequence achieved a grade of B or higher.

Our primary external evaluation, conducted by the Educational Testing Service in Princeton, New Jersey, attempted to provide us with data on the accuracy of the Verbal Skills Profile's prediction of freshman writing performance. This analysis yielded the following results:

1. The Verbal Skills Profile was a very valid predictor of the students' academic performance in entry level English courses.

2. The most valid predictors of academic performance in English courses were the TSWE, STEP 1A English Expression Test, and the Writing Sample. High school English grades and high school rank were the least valid predictors.

STEP 8: Periodic Review and Modification

To maintain the effectiveness of the Wesley College Student Learning Profile, we have developed a procedure for its periodic review and modification.

1. Every year we experimentally administer new tests within the academic departments and the Learning Resources Program. These new tests are correlated with actual student performance, and the correlations are compared with those derived from the tests presently constituting the profile.

2. The ongoing evaluation of the present testing battery as described in Step 7 is conducted on an annual basis.

3. The monitoring of entry-level freshman courses for changes in content or grading policy is undertaken.

4. A careful review of admissions data takes place every year. Information regarding the rise or fall of incoming freshman SAT scores and changes in the proportion of freshman rank in high school graduating classes are carefully examined.

5. Every year a careful study is made of the academic performance of those students granted advanced placement, and that performance is compared with that of other students who had completed the prerequisite course.

6. Periodic examination is also made to insure that there is no redundancy among the information afforded by the different instruments. If this occurs, the battery can be shortened by eliminating one or more of the tests.

7. Institutional analysis of students' academic and social adjustment and development is also continually reviewed to determine whether additional measurement of student competencies or traits would be helpful. If so, the battery of tests is expanded to include appropriate new measures. Of course, in adding new measures to the battery, the eight steps illustrated here would once again be followed.

Any changes which seemed appropriate would originate from the office of the director of the Learning Resources Program, who would propose them to both the academic committee of the faculty senate and the academic dean of the college.

6. *A Concluding Note*

Ideally, before the development of a placement and exemption program is undertaken, the current institutional practices and policies should be identified. Typically, however, the program is started and sometimes completed before any such policies and procedures are identified. Here are a few brief thoughts and suggestions on how to assess and plan for placement and exemption activities on a campus.

First of all, consult the college catalog and book of rules and regulations for students to identify the current policies and practices. If these sources indicate that individual departments need to be consulted concerning their policies and practices, arrange for consultations with the appropriate faculty or administration members.

If you discover that no practices and policies exist, then you should determine whether placement and exemption activities are actually needed. Identify the individuals who are interested in promoting such activities and discuss with them the areas such activities should cover.

If some placement and exemption activities and policies already exist, you should determine (a) whether they are needed, (b) whether they are used, (c) whether they are department, college, or university based, (d) who is responsible for the practices, and (e) who enforces the policies. To conduct a careful evaluation of the current practices and policies, seek answers to the following questions:

1. Are the policies appropriate for the institution?
2. Are the practices consistent with the policies?
   a. Do current practices satisfy current needs?
   b. Should the practices be expanded?
3. Are the practices and policies consistent across departments?
4. Was empirical evidence used to establish the practices?
5. Are the practices defensible?
6. Are the practices regularly evaluated or reviewed?
7. Are students and faculty content with the practices and policies?
8. Who should be responsible for conducting such evaluations?

After such an evaluation has been conducted, you should determine who is to continue the appropriate

placement and exemption activities and who is to initiate additional activities. In addition, it is imperative to determine where the political, monetary, staff, space, and equipment support are to come from. Should such support be provided by the department, college, university, or some combination of all three?

In order either to modify existing placement and exemption policies and procedures or to initiate new ones, it is imperative to identify and establish the appropriate departmental and college faculty liaison persons, because these are the individuals who would be involved in developing examinations, conducting studies, and establishing policies. It is essential to determine and agree upon the tasks that each of these individuals would be capable of and willing to handle.

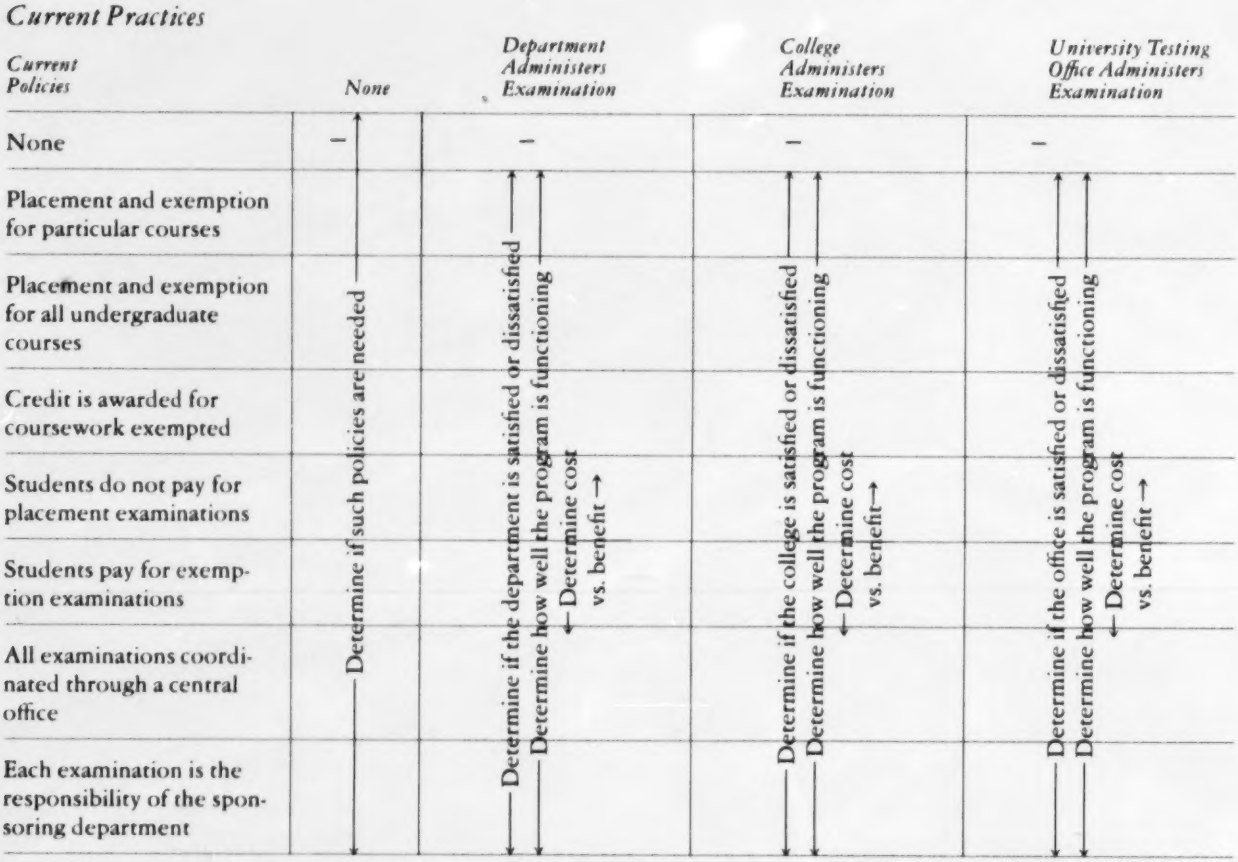
Very few institutions have taken the time or the trouble to establish policies and procedures relating to placement and exemption activities. Faced with such a situation, you can formulate institutional policies and procedures by finding answers to the following questions:

1. Who actually awards credit—the department, college, etc.?
2. Is the credit awarded with or without a letter grade?
3. How does the credit grade relate to the college's letter grade system?
4. How much credit can be awarded an individual student?
5. Can the credit enter into the student's total college credit requirement?
6. Who actually has the authority to establish policy?
7. Should students pay a fee for taking the examinations?
8. Who is responsible for recording the credit?
9. Who is responsible for storing the records used to generate the credit?
10. How is transfer credit handled?
11. Are students allowed to enroll below their expected placement level for course credit?
12. Who has the responsibility of notifying students of their examination performance?
13. Who has the responsibility of publicizing the policies and procedures?
14. Should examinations be used for placement, exemption, or both?

An example of a set of policies and procedures established for the UIUC is presented in Appendix E. These policies and procedures were proposed by a five-person committee made up of (a) professor in Classics, (b) professor in Educational Psychology and the Director of the College of Education's Center for Instructional Research and Curriculum Evaluation, (c) associate dean of the College of Engineering, (d) the Director of Admissions and Records, and (e) professor in Educational Psychology and Head of the Measurement and Research Division of the Office of Instructional Resources. This committee was appointed by the Vice Chancellor for Academic Affairs, who sought the advice of the Faculty Senate's Faculty Advisory Committee before accepting and implementing the committee's report.

Figure 6.1 shows how current practices and policies regarding placement and exemption can be classified for decision-making purposes.

Figure 6.1. Classification of current placement and exemption policies, practices, and procedures


Current Practices
Current Policies
None
Department Administers Examination
College Administers Examination
University Testing Office Administers Examination
None
Placement and exemption for particular courses
Placement and exemption for all undergraduate courses
Credit is awarded for coursework exempted
Students do not pay for placement examinations
Students pay for exemption examinations
All examinations coordinated through a central office
Each examination is the responsibility of the sponsoring department
Determine if such policies are needed
Determine if the department is satisfied or dissatisfied
Determine how well the program is functioning
Determine cost vs. benefit
Determine if the college is satisfied or dissatisfied
Determine how well the program is functioning
Determine cost vs. benefit
Determine if the office is satisfied or dissatisfied
Determine how well the program is functioning
Determine cost vs. benefit

Appendix A. Example of a Locally Developed Calculus Exemption Examination

A Mathematics Department faculty member at the UIUC was given the responsibility of developing a calculus exemption examination. First, he examined the items of previous final examinations for the calculus course (Mathematics 120) and identified the major concepts in the textbook used for that course. With this information he was able to specify the essential concepts and level of terminal knowledge required for the Mathematics 120 course.

Next, he constructed a test blueprint (see Figure 2.1), reflecting the content areas to be covered and the skills required, and devised 40 multiple-choice items.

The faculty member and instructional resource representative then edited the 40 items and selected 24 items for the first draft of the examination. Items in the examination were ordered by perceived difficulty. The first eight items were judged to be the easiest and were placed so as to instill some confidence in the test takers. The next three items related to a single graph. The remaining items were ordered by perceived difficulty.

The instructional resource representative in consultation with the faculty member prepared a plan for evaluating the items and determining the reliability and validity of the examination (see reliability and validity discussion in Chapter 2). The plan basically consisted of the following steps:

1. For item analysis purposes,* a first draft of the examination will be given as an hour examination to one section of the Mathematics 130 course around mid-semester. The Mathematics 130 course is the second course in calculus and analytic geometry for which Mathematics 120 is a prerequisite.

2. A revised form will be administered as an hour examination to one section of the Mathematics 120 course near the end of the semester.

3. To keep the students' motivation level high and consistent, they are to be instructed that if they do well on the examination, it will replace their lowest hour examination score.

4. A second revised form will be administered as an hour examination to three sections of Mathematics 120 two weeks before the end of the semester.

5. The students are to be instructed that if they do well on the examination, it will count in their final grade in the course.

6. The instructors of the courses will have the responsibility of administering the exemption tests.

7. The instructional resource office will produce the test booklets and supply the answer sheets and pencils.

8. Test security, dissemination, and collection of all test materials will be the responsibility of the course instructor.

9. The instructional resource office will conduct all analyses of the test responses and prepare the results in a readable and interpretable form for presentation to the mathematics faculty member.

10. The analyses will consist of (a) item analyses (see Chapter 1, pp. 3-4, for references on test construction techniques) of the first draft, first revision, and second revision, and (b) a determination of the degree of relationship between the mathematics exemption test scores (second revision) and grades received in the Mathematics 120 course (see concurrent validity discussion in Chapter 2).

11. Validity correlation coefficient of at least .50 is expected in order to arrive at meaningful decision scores.

12. The instructional resource representative will provide a recommended set of decision scores based upon the course grade versus the exemption test score comparison.

* Item analysis refers to the in-depth analysis of each item in an examination to determine (a) what proportions of the high-scoring and low-scoring students passed each item, and (b) what proportion of all students taking the examination passed each item.

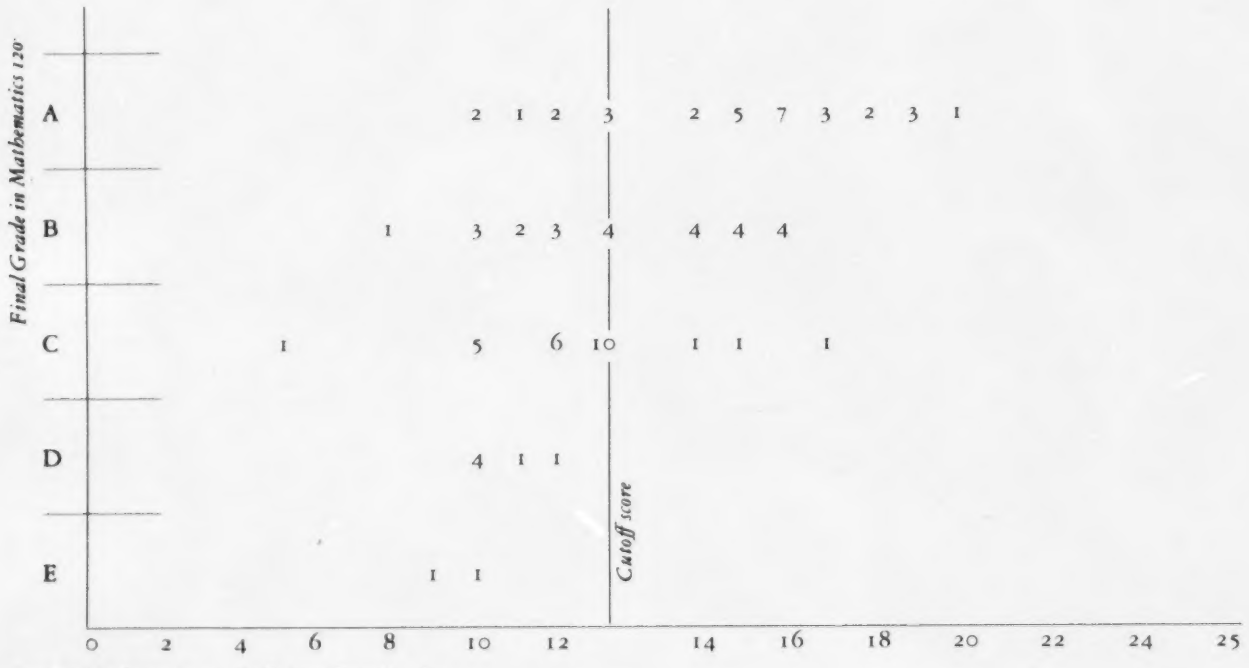
13. The mathematics department faculty member will prepare a parallel form of the second revision of the exemption examination.

Following are concrete examples of steps 1, 2, 4, 9, 10, and 12. In step 1, the first draft of the examination was administered in one section (N = 26) of the Mathematics 130 course. Item revisions were made—primarily on the basis of an item analysis. As a general rule, items that were too difficult for the Mathematics 130 students were simplified and items that were too easy were retained, since it was assumed that the difficulty level would be higher for entering students than for the Mathematics 130 students who had already completed Mathematics 120. The major revisions were as follows: (a) the number of items was increased from 24 to 30 to improve reliability, (b) difficult items were simplified, (c) some items were divided into two separate items, (d) fewer items had the alternative "none of the above" as the correct response, (e) some items were eliminated as being too difficult, and (f) some items were revised so that they were less complex and involved less algebraic manipulation while still retain-

Figure A.1. Test statistics for the Mathematics 120 Proficiency Examination, form I, first and second revisions

	Test Statistics	
	First Revision	*Second Revision*
Number of Testees	24	89
Number of Items	30	23
Score Range	0-23	5-20
Mean Score	15.79	12.84
Standard Deviation	3.04	2.64
Standard Error of Measurement	2.26	2.06
Reliability Coefficient (KR-20)	0.45	0.39

Figure A.2. Scatterplot of score on Mathematics 120 Proficiency Examination vs. final grade in Mathematics 120 fall semester 1972 (N = 89)



ing the original conceptual content.

The revised form was administered as an hour examination to one section (N = 24) of Mathematics 120 near the end of the fall, 1972 semester (step 2). This form was then revised again, and the number of items was reduced to 25. The items of the revised test were reordered on the basis of difficulty level.

The second revised and shortened examination was administered as an hour examination to three sections (N = 89) of Mathematics 120 two weeks before the end of the fall, 1972 semester (step 4).

The test statistics for the first and second revisions that were presented and considered appear as examples in Figure A.1 (step 9).

The correlation between the test score and grade in Mathematics 120 was .565 and the distribution of grades plotted on the mathematics exemption test score base is presented in Figure A.2 (step 10).

Based upon the relationship between the final grade in Mathematics 120 and the test score, a decision score of 13 was selected (step 12)—students with a score of 13 or above were exempted from Mathematics 120 and received five semester credit hours. This decision score was also used to place students planning to continue work in mathematics into the Mathematics 135 course.

Appendix B. Example of the Distribution of Placement and Proficiency Test Lists for the Fall 1967 Freshmen

Figure B. 1. Distribution of Placement and Proficiency Test lists for the fall 1967 freshmen

Research Memorandum #30

Distribution of Placement and Proficiency
Test Lists For the Fall 1967 Freshman

Lawrence M. Aleamoni

Beginning around June 12, 1967, cumulative, updated lists of fall 1967 freshmen placement and proficiency test results will be produced. These lists will be produced monthly through August 1967.

A few departments have requested monthly lists in addition to the final lists to be provided all the departments and colleges requesting them in September 1967.

In the table below is a list of the departments and colleges requesting lists as well as when, how many, and to whom the lists should be sent.

Lists of Departments and Colleges Requesting Monthly or
Total Lists of Placement and Proficiency Results as of May 15, 1967

Department or College	Results Desired	College(s) for Test	When Lists Are Desired		Complete and Updated September Lists	Person Receiving List(s)
			Monthly	September		
Agriculture	All	All	No	Yes	2	Asst. Dean
Commerce	All	Commerce	No	Yes	2	Chief Clerk, Student Records
Education	All	Education	No	Yes	6	Asst. Dean
English	English	All	Yes	No	0	Director of Rhetoric
Fine and Applied Arts	All	Fine and Applied Arts	No	Yes	1	Assoc. Dean
French	French	All	Yes	No	0	Assistant to Dept. Chairman
German	German	All	No	Yes	3	Dept. Chairman
Institute for Aviation	All	Institute for Aviation	No	Yes	1	Curriculum Office
Liberal Arts and Sciences	All	LAS	No	Yes	4	Chief Clerk Student Records
Latin	Latin	All	No	No	1 (at end of Aug.)	Dept. Chairman
Mathematics	Math Int. Math Adv.	All	Yes	Yes	1	Exec. Secretary of Dept.
Spanish	Spanish	All	Yes	Yes	1	Dept. Chairman
Russian	Russian	All	No	Yes	1	Director of Intro. Courses

The Measurement and Research Division of OIR will deliver one copy of the monthly updated lists, for those departments and colleges requesting it, to the person(s) named in the right-hand column, at the end of each month from June through August 1967.

All those departments and colleges requesting complete and updated lists will receive them at the end of September 1967, except for the Latin department and they will receive theirs at the end of August.

Figure C.1. 1974 Freshman Guidance Form, UIUC

DOE, JOHN E. — 654321098 — M — LAS — 1423 — 75 — 87 — 350

UNIVERSITY OF ILLINOIS FRESHMEN GUIDANCE SCORES AND DECILES

S

			SCORE	COLLEGE DECILES 0 1 2 3 4 5 6 7 8 9	ALL UNIV. DECILES 0 1 2 3 4 5 6 7 8 9
1	ACT/SAT	English	26	888888888	888888888
2	ACT/SAT	Mathematics	34	999999999	9999999999
3	ACT	Social Science			
4	ACT	Natural Science			
5	ACT/SAT	Composite	30	9999999999	9999999999
6	SCAT	Verbal	39	888888888	888888888
7	SCAT	Quantitative	32	555555	6666666
8	SCAT	Total	71	77777777	888888888
9	High School Percentile Rank		75	0	222
10	Expectancy of a C or better grade		91	PERCENT	89 PERCENT

04/10/74 (MO DAY YEAR) DATE OF PRINTING

NF

PLACEMENT AND PROFICIENCY INFORMATION — TEST DATE 04/06/74

	SCORE	%	H.S. UNITS	EXPECTANCY OF C OR BETTER IN COURSE: #	#2	#3	PROF	COURSES PROFICIENCIED (SHOULD NOT REGISTER FOR THESE COURSES)	HOURS	PLACEMENT (MAY REGISTER FOR THESE COURSES)	
11 MATH INT											
12 MATH ADV	12	2	40	94	99	90	B			MATH112,114,118	Y
13 ENGLISH	59	9	40				A	RH105	4		
14 BIOL 100	09	0	10	**			B			BIOL100	Y
15 BIOL			10								
16 CHEM			10								
GERMAN			00				B				
17 READING	520	8									
18 LISTENING	480	6									
19 TOTAL	500	7		?				GER101	4	GER102	Y
SPANISH			20				B				
20 READING	450	6									
21 LISTENING	500	6									
22 TOTAL	480	6		**						SPAN122	Y

CLEP INFORMATION

	SCORE	%	CREDIT GRANTED	CREDIT HOURS
23 PHYSICAL SCI				
24 BIOL SCI				
25 HUMANITIES				
26 SOCIAL SCI	627	9	YES	6

Credit presented is subject to review by the student's college. Duplicate credit will not be honored.

PROFICIENCY P/P YES CREDIT CLEP YES AUTHORIZED AND APPROVED BY OIR L.M. ALEAMONI (MEASUREMENT AND RESEARCH DIVISION)

DOE, JOHN E. — 654321098 — M — LAS — 1423 — 75 — 87 — 350

UNIVERSITY OF ILLINOIS FRESHMEN GUIDANCE SCORES AND DECILES

C

			SCORE	COLLEGE DECILES 0 1 2 3 4 5 6 7 8 9	ALL UNIV. DECILES 0 1 2 3 4 5 6 7 8 9
1	ACT/SAT	English	26	888888888	888888888
2	ACT/SAT	Mathematics	34	9999999999	9999999999
3	ACT	Social Science			
4	ACT	Natural Science			
5	ACT/SAT	Composite	30	9999999999	9999999999
6	SCAT	Verbal	39	888888888	888888888
7	SCAT	Quantitative	32	555555	6666666
8	SCAT	Total	71	77777777	888888888
9	High School Percentile Rank		75	0	222
10	Selection Index		39	222	44444

04/10/74 (MO DAY YEAR) DATE OF PRINTING

NF

PLACEMENT AND PROFICIENCY INFORMATION — TEST DATE 04/06/74

	SCORE	%	H.S. UNITS	EXPECTANCY OF C OR BETTER IN COURSE: #	#2	#3	PROF	COURSES PROFICIENCIED (SHOULD NOT REGISTER FOR THESE COURSES)	HOURS	PLACEMENT (MAY REGISTER FOR THESE COURSES)	
11 MATH INT											
12 MATH ADV	12	2	40	94	99	90	B			MATH112,114,118	Y
13 ENGLISH	59	9	40				A	RH105	4		
14 BIOL	09	0	10	**			B			BIOL100	Y
15 BIOL			10								
16 CHEM			10								
GERMAN			00				B				
17 READING	520	8									
18 LISTENING	480	6									
19 TOTAL	500	7		?				GER101	4	GER102	Y
SPANISH			20				B				
20 READING	450	6									
21 LISTENING	500	6									
22 TOTAL	480	6		**						SPAN122	Y

CLEP INFORMATION

	SCORE	%	CREDIT GRANTED	CREDIT HOURS
23 PHYSICAL SCI				
24 BIOL SCI				
25 HUMANITIES				
26 SOCIAL SCI	627	9	YES	6

Credit presented is subject to review by the student's college. Duplicate credit will not be honored.

PROFICIENCY P/P YES CREDIT CLEP YES AUTHORIZED AND APPROVED BY OIR L.M. ALEAMONI (MEASUREMENT AND RESEARCH DIVISION)

Appendix C. Example of the Interpretation Information for the 1974 Freshman Guidance Form

Office of Instructional Resources
Measurement and Research Division
307 Engineering Hall
333-3490

Research Memorandum No. 157
March 1974

Interpreting the 1974 Freshman Guidance Form[1]

All students planning to enroll at the University of Illinois at Urbana-Champaign in the fall of 1974 should take a battery of tests administered by the office of Testing and Scoring Services, Psychological Counseling Center. The results of these tests are reported on the Freshman Guidance Form, one copy of which is mailed to the advisor and the other to the student if the examinations were taken during Spring Testing, 1974.

The following is an explanation of this form from the top down. A copy of the form with sample data is appended to this memorandum (Figure C.1).

1. The first line contains student identification, rank in high school senior class (1 through 100), high school standing (1 through number of students in high school senior class) and high school senior class size.

2. Freshman Guidance Examinations (FGE) scores and the corresponding College Deciles and All University Deciles are contained in the box at the top of the page. The deciles or tenths indicate where the student's score stands relative to the distribution of fall 1973 freshmen scores. These deciles are printed as a series of identical single digits (0-9) and can be roughly grouped for evaluation purposes as follows: 0-2 Poor, 3-6 Average, and 7-9 Good. For example, on the sample form the ACT/SAT English score is 26, with the student falling in the 8th decile for the college in which he is enrolled and the 8th decile for all freshmen enrolled in the University.

Please note: Scores 1 through 5, ACT/SAT are from the Test Battery of the American College Testing Program and College Board Scholastic Aptitude Test.[2] Scores 6 through 8, SCAT, are from the Cooperative School and College Ability Tests.[3]

1. This memorandum was prepared by the placement and proficiency staff consisting of Richard Tate, Nancy Halff, and Don Heil.

2. The ACT aptitude test battery consisting of four tests can be obtained from the American College Testing Program, P.O. Box 168, Iowa City, Iowa 52240.

3. The SAT and SCAT aptitude test batteries consisting of three tests each can be obtained from Educational Testing Service, Princeton, New Jersey 08541.

Score 10 of the FGE scores appears as Expectancy of a "C" or Better Grade on the student's form and as Selection Index on the advisor's form. This is the only place where the two forms differ. The Selection Index is an estimate of the student's first semester grade point average (GPA 1) based on his High School Percentile Rank and ACT Composite score. It is printed out as a two-digit number. For example, a 39 indicates an estimated GPA 1 of 3.9.

The Expectancy of a "C" or Better Grade is an estimate of the likelihood that the student would make a GPA 1 of at least 3.0. This estimate is derived from the Selection Index and is also printed out as a two-digit number. For example, an expectancy of 90 indicates that the student has approximately a 90 percent chance of obtaining a GPA 1 of at least 3.0.

3. DI appearing at the lower right of the first box stands for discrepancy index. If an asterisk (*) appears here, the college deciles for High School Percentile Rank and either the ACT Composite score or the SCAT Total score differ by three or more deciles. This asterisk should alert the advisor to the possibility that the student's measured ability and previous performance may not be congruent.

4. Placement and Proficiency (P & P) Information is provided on lines 11 through 22.

a. P & P examination titles are printed in the first column. Only one examination is available in each area with the following exceptions:
   (1) Biology – Four examinations (Biol 100, 101, 110, and 111) are available for proficiency credit only. The examination(s) taken are printed directly to the right of 14 BIOL and 15 BIOL.
   (2) Foreign Language – Two spaces are allocated (17-19 and 20-22) for reporting examination scores. The examinations taken are printed above 17 READING and 20 READING.

b. Educational Opportunities Program (EOP) students are identified with a "50" computer printed to the right of 17, below 16 CHEM.

c. The column headed SCORE indicates the raw score in each test area for all but the French, German, Russian, and Spanish examinations which are reported as College Board (CEEB) standard score equivalents.

d. The column headed *U. of I.* DECILE indicates the University decile corresponding to the score and may be interpreted in the same fashion as the deciles in the FGE portion of the form.

e. The column headed *H. S. Units* reports the number of high school years the student spent in each test area. This appears as a two digit number with either a "5" or a "0" as the second digit. A "5" indicates 1/2 year.

f. The column headed *Expectancy of "C" or Better in Course #1, #2, and #3* contains two digit numbers expressing the percent chance of achieving a "C" or better grade in each of the courses listed in the placement column. For example, the sample FGE and P & P Form indicates placement in Mathematics 112, 114, or 118. This student has a 94 percent chance of receiving a "C" or better grade in Mathematics 112, a 99 percent chance in Mathematics 114, and a 90 percent chance in Mathematics 118. A double asterisk (**) in the expectancy column(s) indicates that data was not available to generate expectancies for that course. A question mark (?) in the expectancy column(s) indicates that the student's predicted grade for that course falls below the range of available data. This does not necessarily mean that the student would have a problem with the course, but does indicate that his/her entering abilities as measured by the relevent FGE scores are lower than

most of the students previously enrolled in that course. If more than three courses are printed in the Placement column the expectancies for only the first three will be printed.

g. The column headed *Report of H. S. Grade* specifies the estimated average high school grade in that subject for the number of years indicated in the H. S. Units column. This estimated average is provided by the student.

h. The column headed *Courses Proficiencied* lists the course(s) and corresponding proficiency hours that the student has earned by examination. Only English, biology, and the foreign languages now offer proficiency hours based upon the locally administered P & P examinations given to entering freshmen.

Please note: If a student proficiencies fewer than 16 hours (e.g., 101 and 102) of a foreign language, proficiency credit is contingent on the completion of the language course into which he was placed, that is, the course listed under Placement.

i. The column headed *Placement* lists the courses the student should register for based upon his test scores and, in the case of foreign language, his high school units. The advisor can change placements only after obtaining permission from the appropriate department chairman.

Please note: If Mathematics 135 (120) is printed and conservative placement is advisable, place into Mathematics 120. If "CHEM SEE MATH PRQ" appears on the chemistry placement line or "BIO SEE CHEM PRQ" appears on the biology line, the student must verify with the chemistry or biology department that he has taken enough mathematics or chemistry to handle the courses into which he may be placed.

j. The column headed *Credit Status* indicates whether a student is to receive credit for the course in which he is placed. "Y" for yes should appear for all course placements except Chemistry 100 where "N" for no could appear since credit in Chemistry 100 is determined by high school units and placement level.

5. CLEP *Information* appears on lines 23 through 26. The first column contains the student's standardized scores and the second column contains the deciles corresponding to those scores. This decile indicates where the student's score stands relative to the distribution of scores obtained by LAS students in the norming sample. The Credit Granted box will contain the printed message Yes, No, or W (Waiver only). The last column contains the number of credit hours granted if the message is "Yes" or number of regional credit hours waived if the message is "W."

6. On the last line of the form a "Yes" will appear opposite Proficiency P & P if any proficiency hours have been granted and a "Yes" will appear opposite Credit CLEP if any credit hours have been granted. The line labeled "*Authorized and Approved by* OIR" will have the name L. M. Aleamoni printed on it and will constitute the required authorization for this record to be used by the Office of Admissions and Records to determine proficiency hours or CLEP credit hours for the student. Since duplicate credit will *not* be honored, the credit presented on the FGE and P & P Form is subject to review by the student's college before it is recorded.

For complete information regarding the data provided in the Freshman Guidance Form please request the following memoranda from the Measurement and Research Division of the Office of

Instructional Resources:

1. Freshman Guidance Examination Deciles and Grade Point Expectancies for Fall 1974 Freshmen. Research Memorandum No. 158. This paper contains tables showing the decile score equivalents, means, Ns, and standard deviations for the ACT/SAT, SCAT test batteries, HSPR, and the Selection Index for all freshmen entering the University. These data are also shown separately for the following colleges: Agriculture, Commerce and Business Administration, Engineering, Fine and Applied Arts, College of Liberal Arts and Sciences, Aviation and Physical Education. Also included are the expectancy tables for a GPA 1 at 3.0 or greater for all freshmen entering the University and for each of the colleges listed above, with the exception of Aviation.

2. Placement and Proficiency Examination (P & P) Deciles, College-Level Examination Program (CLEP) Deciles and Course Grade Expectancies for Fall 1974 Freshmen. Research Memorandum No. 159. This paper contains tables showing the decile score equivalents, means, Ns and standard deviations for the 13 P & P examinations and the four CLEP General examinations. Also included are the course grade expectancies of "C" or greater for all of the courses in the P & P system. A detailed description of the expectancy calculations is presented along with the regression equations used in their generation.

3. Course Placement and Proficiency Scheme and CLEP Score Cutoffs for Fall 1974 Freshmen. Research Memorandum No. 160. This paper presents a short description of the placement and proficiency system and the complete details of placement and proficiency score cutoffs and contingencies.

4. Placement Statistics for Fall 1973 Freshmen. Research Memorandum No. 161. This paper presents the P & P score cutoffs for 1973 and the number of freshmen proficiencied or placed for all of the courses in the P & P system.

5. Foreign Language Standard Score and CLEP General Examination Score Equivalents for the Fall 1974-1975 Freshmen. Research Memorandum No. 150.

Appendix D. Proposal on LAS College Policy Concerning the CLEP Examinations and the General Education Exemption Program

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March 6, 1972

To: The General Education Council and the Committee on Placement and Proficiency of the College of Liberal Arts Sciences

From: Richard T. Scanlan, Chairman, Committee on Placement and Proficiency

Subject: College Policy on the College Level Examination Program and General Education Proficiency

You will find on the attached chart the cut-off [decision] scores for the College Level Examination Program General Examinations established by the Committee on Placement and Proficiency and the General Education Council for waiver of the college distributional requirements and credit. These scores have been determined through the following process:

1. General Examinations were given to those entering freshmen selected by their summer advisors. (September, 1971)
2. General Examinations were given to a large group of unselected freshmen. (September, 1971)
3. An appropriate Examination was given to juniors who had completed specific distributional sequences. (January, 1972)
4. The scores achieved on the CLEP General Examinations by the juniors were compared with (1) the grades which they had received in the courses they had selected to complete the requirement, (2) the scores achieved by both groups of freshmen earlier in the fall, and (3) the national norms established by the CLEP program for college sophomores.
5. Cut-off scores were established.

You will note from the chart that the two committees have established a varying scale of recognition from three to six hours of credit according to performance on the test. A waiver of the distributional requirement will be granted upon achievement of the score necessary for three hours credit. It will

probably be necessary to establish an LAS course for bookkeeping purposes to which this "general" credit can be attached.

The committees recommend that the CLEP General Examinations be administered by the Measurement and Research Division three times a year: at the beginning of each semester and of the summer session. A student may take an examination in each of the four areas only once during a given year. After the first semester of the sophomore year, the examinations can be taken for waiver only, with no credit allowed. Students will be charged $3.00 for each examination taken.

We recommend that the summer advisors in 1972 and thereafter advise incoming freshmen as to the availability of the CLEP General Examinations to be administered during the first week of the fall semester and which of the tests, if any, they should consider taking. For the other two test administrations during the year, we recommend suitable publicity (e.g., a letter about the availability of the tests to freshmen and sophomores in the college, advertisements in the *Daily Illini*, etc.) and [making] registration forms available in the college office.

CLEP Data

(Waiver of the distributional requirement is to be granted upon achievement by the student of the score necessary for three hours credit.)

	1 Cutoff Score	*2 Corresponding Grade*	*3 Percentile U of I Fresh*	*4 Percentile National*
Social Science				
for 6 hrs credit	51	A	88	84
for 3 hrs credit	41	C+	68	70
Humanities				
for 6 hrs credit	49	A+	87	82
for 3 hrs credit	39	B	66	73
Biology				
for 6 hrs credit	35		88	95
for 3 hrs credit	28		67	79
Physical Science				
for 6 hrs credit	33	A		88
for 3 hrs credit	28	C		79

1. This column contains the raw score on the CLEP General Examination. Scores on Biology and Physical Science appear somewhat lower than the other two areas because they are subscores of a single test.

2. This column indicates the level of ability comparable to a given cutoff score within the group of juniors who were tested. These data are not available on the biology test.

3. This column reports the corresponding percentile rank of entering U of I freshmen at each level. Data on the physical science test are insufficient for a prediction.

4. This column indicates the percentile rank of each cutoff score compared with a national norming sample of college sophomores.

Appendix E. Policy and Procedure Recommendations Regarding Placement and Proficiency Examinations at the UIUC

The Ad Hoc Committee, in its review of (a) current placement and proficiency policy and procedures on the Urbana-Champaign campus of the University of Illinois and (b) the "Final Recommendations of the Educational Policy Subcommittee on Proficiency Examinations" submitted in 1968, recommends that greater utilization of placement and proficiency examinations, especially proficiency examinations, should be encouraged at the campus and as a result greater educational benefits could be rendered for the University community, especially students. The Committee recommends that the Vice Chancellor for Academic Affairs establish a central office to coordinate the placement and proficiency examinations for the campus both for incoming undergraduate students and proficiency examinations for students after registration.

A. Policy Recommendations

Recommendation A1

The Ad Hoc Committee recommends that a central office be designated to coordinate proficiency and placement examination activities. Specific recommendations are as follows:

(a) All academic departments within the University at Urbana-Champaign may cooperate with the designated office which upon request of the departments will assist in preparing or selecting, administering, and grading the examinations. Preparation of examinations to be used, permission for students to take such examinations, and grading of the examinations would continue to be the responsibility of the individual department in which the interested student wished to take the examination. The results of the examinations would be reported to the central coordination office for record-keeping and research purposes.

(b) The office would be responsible for coordinating placement and proficiency examination programs on an All-Campus basis and for related proficiency programs such as the College Board tests, the College-Level Examination Program (CLEP) tests, etc.

(c) The office would be responsible for the general administration of the proficiency program, processing of proficiency examination requests, and informing the Office of Admissions and Records, colleges, and departments of all test results.

(d) A five-member advisory group would be appointed by the Vice Chancellor for Academic Affairs to oversee the policies and procedures implemented by the office.

(e) The office and departments would be responsible for annual reviews of the tests and the incidences of their use in relation to the policy for present and potential use. The general results of such reviews would be reported and reviewed by the advisory committee.

Recommendation A2

The Ad Hoc Committee recommends that the final score of all proficiency examinations be recorded – regardless of whether the result is "pass" or "fail." Only grades of "pass" should be recorded on the permanent student ledger, but a record of "failures" should be maintained in the designated office to aid in future evaluation and development of the proficiency program.

Recommendation A3

The Ad Hoc Committee recommends that students be allowed to repeat a proficiency examination after having failed it previously provided that at least one semester has elapsed since the previous failure and more than one form of the examination is available.

Recommendation A4

The Ad Hoc Committee recommends that a student who passes any form of a recognized proficiency ex-

amination (Advance Placement Examination, University of Illinois at Urbana-Champaign Proficiency Examination, etc.) be allowed the credit even though he failed that proficiency examination previously.

Recommendation A5

In testing for course-in-sequence placement, combined placement and proficiency examinations should be used since the decision involving placement usually implies some proficiency in the preceding course(s); e.g., when a student is placed into Latin 103, it is assumed that he has demonstrated proficiency for Latin 101 and 102.

Recommendation A6

Available placement and proficiency examinations could be taken by transfer students who are accepted for admission and used for guidance and placement at the University of Illinois at Urbana-Champaign.

B. Procedure Recommendations

Recommendation B1

The Ad Hoc Committee recommends that the Vice Chancellor for Academic Affairs send a memorandum to departments and colleges encouraging them to develop and use placement and proficiency examinations (which may include the College Level Examination Program (CLEP) series or any other type of placement and proficiency examination) and to work with the designated office for the coordination and validation of such examinations. Also, the memorandum should emphasize the desirability of using the central coordination office in the area of such examinations. The results of the examinations should be channeled through the designated office for academic recording and other research purposes.

Recommendation B2

The designated office shall develop procedures for the implementation of the following specific responsibilities:

(a) Maintaining placement and proficiency examination records.

(b) Reporting examination results to students, departments, colleges, and the Office of Admissions and Records. (In addition, scores on group placement and proficiency examinations should be reported to the Psychological and Counseling Center.)

(c) Research activities pertaining to the examinations.

(d) Developing and publishing a calendar of placement and proficiency examinations to be given periodically.

(e) Collecting from and distributing to all departments details of departmental requirements and other rules involving departmental proficiency examinations.

Recommendation B3

It is further recommended that considerable publicity be given to the greater emphasis being placed on the administration of placement and proficiency examinations through the central designated office. Such publicity should be shared with all high school and community counselors in the State of Illinois.

J. Thomas Hastings
Richard T. Scanlan
Jane W. Loeb
Howard L. Wakeland
Lawrence M. Aleamoni, *Chairman*

Appendix F. Glossary of Basic Terms of Measurement and Statistics

Affective level: An individual's interest, attitudes, values, and the development of appreciations.

Cognitive level: An individual's recall or recognition of knowledge and the development of intellectual abilities and skills.

Concurrent validation: A comparison of how well test scores match measures of contemporary criterion performance.

Content validation: A determination of how well test items sample the areas of subject matter and the abilities which a course of instruction was designed to teach.

Correlation coefficient: A pure number, with values ranging from −1.00 to +1.00, that indicates to what extent two measures are related.

Criterion: A standard, norm, or judgment used as a basis for quantitative and qualitative comparison.

Decision (or cutting) score: A number which separates student scores which are satisfactory in terms of some purpose or criterion from those which are not satisfactory.

Dispersion: The scatter, variability, or spread of a distribution of scores around some central value such as the mean; also referred to as *variability.*

Empirical evidence: The collection and analysis of data.

Empirical validation: A comparison of test scores with accurate criterion measures.

Evaluation: A judgment of merit, sometimes based solely on measurements such as those provided by test scores but more frequently involving the synthesis of various measurements, critical incidents, subjective impressions, and other kinds of evidence.

Exemption: Excusing students from a degree requirement on the basis of demonstrated proficiency that may have been acquired outside of the classroom.

Experimental validation: The use of trait-treatment interaction procedures.

Frequency distribution (diagram): A tabulation of scores from high to low (or low to high) showing the number of students who obtain each score or group of scores; also referred to as a *distribution of scores.*

Homogeneity: The similarity of students in a group or the items in a test.

Item analysis: The process of evaluating single test items by any one of several methods to determine how well a given test item discriminates among students differing in terms of some standard; then discrimination usually involves determining the *item difficulty* and *discriminating* power.

Item difficulty: The proportion of a specified group who answer a test item correctly.

Item discrimination: A measure of the ability of a test item to differentiate between students who are judged to be good in terms of some standard and those who are judged to be poor on the same standard.

Kuder-Richardson formulas (KR-20, KR-21): estimates of the reliability coefficient of a single test from a single test administration.

Logical validation: A judgment of the appropriateness of the test in light of the instructional objectives of the course.

Mean: A measure of the average numerical value of a set of scores.

Norms: Summarized (tabulated) statistics that describe the test performance of reference groups of students of various ages or grades.

Placement: The positioning of students at the optimal point in an instructional sequence on the basis of how much the student already knows about the subject.

Proficiency: A measure of overall competency in a particular course or sequence of courses.

Raw score: The number first obtained in scoring a test, before any transformation is made to a standard (or converted) score.

Reliability: The consistency of a measure—that is, how consistent are students' scores from one time to another (assuming no additional learning, practice effects, etc.).

Reliability coefficient: A correlation coefficient between scores on two equivalent forms of a measure taken by the same group of students.

Significant difference: A large enough difference between two comparable statistics (e.g., two means) computed from separate samples so that the probability that the difference occurred by chance is less than some specified limit (e.g., a difference this large would occur by chance not more than 5 times in 100).

Standard deviation: A measure of variability, dispersion, or spread of a set of scores around their mean.

Standard error of measurement (SEM)*:* An estimate of the inaccuracy (amount of measurement error) in a student's raw score.

Standard score: A score derived from a raw score so that it

can be expressed on a uniform standard scale without altering its relationship to other scores in the distribution. A simple type of standard score is the *Z-score*, which expresses each raw score as a positive or negative deviation from the mean of all raw scores.

Trait-treatment interaction: Students who differ on a particular trait (attribute) measure will do better under different treatment conditions.

Validity: The accuracy of a measure, that is, to what extent is the test measuring what it is supposed to measure.

Validity coefficient: A correlation coefficient between scores on two measures taken on the same group of individuals.

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